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# 01

## FOREWORD



## FOREWORD

Digital health has the potential to revolutionize healthcare delivery and improve health outcomes for millions of people around the world. In Egypt, the government has recognized the importance of digital health and has taken significant steps to promote its adoption and implementation.

This report, prepared by EFESO Management Consultants and Giza Systems Strategy, provides a comprehensive analysis of the digital health landscape in Egypt. It highlights the key initiatives, challenges, and opportunities in the sector and provides recommendations for future steps to ensure the success of the digital health strategy in Egypt.

The report is a valuable resource for policymakers, healthcare providers, technology companies, and other stakeholders interested in advancing digital health in Egypt. It provides insights into the current state of digital health in the country and offers practical recommendations for building a robust and sustainable digital health ecosystem.

We would like to express our gratitude to the authors of this report for their diligent research and analysis. We hope that this report will serve as a catalyst for further discussions and collaborations to advance digital health in Egypt and beyond.

# 02

## INTRODUCTION



# INTRODUCTION

**Digital health is revolutionizing healthcare, and Egypt is poised to become a regional leader in this field.**

Driven by rapid technological advancements and a growing desire to improve healthcare access and quality, Egypt is actively implementing digital solutions across its healthcare ecosystem. This report aims to explore the potential of digital health to transform healthcare in Egypt, analyzing the current landscape, key drivers, and promising pathways for the future.

**Egypt's healthcare system faces several challenges, including limited access to services in rural areas, fragmented care delivery, and a growing burden of chronic diseases.**

Digital health offers a transformative approach to addressing these challenges, enabling seamless information exchange, bridging geographical gaps, and empowering patients to actively participate in their own healthcare journey.

**This report delves into the current state of digital health in Egypt, highlighting key initiatives such as the National Health Information Infrastructure (NHII), the eHealth Egypt project, and the Egyptian Health Information Exchange (EHIE).**

We analyze the success factors of these initiatives and identify remaining obstacles, such as limited infrastructure, data privacy concerns, and digital literacy gaps.

**By drawing on global best practices and considering the unique needs of the Egyptian context, this report presents a comprehensive roadmap for building a thriving digital health ecosystem.**

We identify strategic priorities, propose impactful solutions, and recommend concrete steps for achieving a future where digital health empowers all Egyptians to lead healthier lives.

This report aims to serve as a valuable resource for policymakers, healthcare providers, technology companies, and all stakeholders invested in shaping a brighter future for healthcare in Egypt through the transformative power of digital health.

# 03

## GLOBAL BEST PRACTICES AND BENCHMARKS IN DIGITAL HEALTHCARE





# Global Best Practices in Digital Healthcare

Egypt is on a promising journey towards leveraging digital health for improved healthcare delivery and patient outcomes. To accelerate this journey, considering learnings from global best practices can be extremely valuable. Here are some of the most suitable examples that Egypt can adapt to its context:

## 1. Building a Robust Digital Health Infrastructure:

- **Estonia's X-Road:** This secure data exchange platform enables seamless electronic health record sharing across healthcare providers, fostering better continuity of care. Egypt can adapt this model to develop a centralized interoperable platform for secure data exchange across its healthcare ecosystem.
- **India's Aadhaar:** This unique identification system simplifies access to healthcare services and reduces administrative burdens. Egypt can explore a similar system to streamline patient identification and service delivery, particularly in rural areas.

## 2. Implementing Evidence-Based Digital Health Solutions:

- **Rwanda's Maternal and Child Health (MCH) program:** This telemedicine and mobile health program significantly improved access to ANC and postpartum care for mothers in rural areas. Egypt can adapt this model to address specific healthcare challenges, such as remote monitoring of chronic diseases or early childhood development monitoring.
- **Singapore's Chronic Disease Management Program:** This personalized digital coaching program empowers patients with chronic diseases to self-manage their conditions. Egypt can adapt this approach to improve care for its growing population with chronic diseases.

## 3. Ensuring Data Privacy and Security:

- **EU's General Data Protection Regulation (GDPR):** This robust framework sets high standards for data privacy and security, empowering individuals with control over their health data. Egypt can draw inspiration from GDPR to develop strong data privacy regulations that build trust and confidence in digital health solutions.
- **South Korea's Personal Information Protection Act:** This legislation emphasizes informed consent and transparency in data collection and use. Egypt can adopt similar principles to ensure ethical and responsible handling of health data.

## 4. Promoting Digital Literacy and User Engagement:

- **Thailand's "Doctor on Your Phone" app:** This user-friendly app provides access to telehealth consultations and health information in vernacular languages. Egypt can develop similar localized and accessible applications to cater to diverse populations and address specific health needs.
- **UK's NHS Choices website:** This comprehensive online resource provides health information, appointment booking tools, and support services for patients. Egypt can develop a similar platform to empower patients with knowledge and tools to participate actively in their own healthcare.

## 5. Fostering Public-Private Partnerships:

- **Kenya's M-Tiba:** This mobile money platform facilitates healthcare payments and insurance enrollment. Egypt can partner with similar platforms to increase financial inclusion and improve access to healthcare services for underserved populations.
- **Brazil's Saúde Digital partnership:** This initiative leverages private sector expertise to develop and deploy innovative digital health solutions across public healthcare facilities. Egypt can explore similar partnerships to accelerate the pace of digital health innovation and implementation.

**Table 1:** Benchmark Analysis for 6 countries against 7 criteria

Let's delve into a benchmarking analysis of the five countries mentioned earlier – Egypt, Iran, Turkey, Pakistan, Nigeria, and Philippine– using the seven criteria of Leadership and Governance, Investment and Sustainability, Workforce for Digital Health, Legislation, Policy and Compliance, Standards and Interoperability, Infrastructure, and Services and Applications.

	Egypt	Iran	Turkey	Pakistan	Nigeria	Philippines
GDHM Score	<b>3</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>4</b>
Leadership and Governance	Egypt demonstrates strong governmental commitment through its Vision 2030, which prioritizes digital transformation. Leadership initiatives, like the "Digital Egypt Platform," showcase the country's dedication to centralizing services and promoting citizen engagement.	Iran's Sixth Five-Year Development Plan underscores the importance of digital health, reflecting a commitment to leadership and governance. However, there could be more clarity on central oversight and coordination.	Turkey's "2023 Information Society Strategy" highlights strong leadership and governance, aiming for a digitally transformed society. The government's focus on the "Smart Cities Strategy" demonstrates strategic direction.	Pakistan's "Digital Pakistan" initiative signals leadership commitment. The government's focus on creating an enabling environment for startups aligns with digital health leadership.	Nigeria's National Digital Economy Policy and Strategy reflect leadership intent. However, further emphasis on healthcare-specific leadership measures is essential.	The Philippines' "Philippine Digital Strategy" reflects leadership commitment to digital transformation. The strategy's focus on promoting e-commerce, digital government services, and digital skills development demonstrates a strategic approach to healthcare digitization.
Investment and Sustainability	Investment in digital health is evident through various initiatives like the National Digital Identity Program. Ensuring sustainable funding for ongoing projects could further enhance the country's investment landscape.	The emphasis on expanding the digital economy showcases investment intent. Ensuring sustainable funding for digital health projects is crucial for long-term success.	Turkey's commitment to investment in digital transformation is supported by a clear strategy. Sustained funding models are important for the continued growth of digital health initiatives.	Pakistan's commitment to fostering innovation suggests investment intent. Ensuring long-term financial sustainability for digital health projects is key to achieving impact.	Nigeria's focus on the digital economy underscores investment intentions. Ensuring consistent funding and financial sustainability for digital health is essential.	The Philippines' investment in digital health is demonstrated through initiatives like "HealthHub" and the "National ID System." Ensuring long-term funding and sustainability for digital health projects is important for continued success.
Workforce for Digital Health	While Egypt's Vision 2030 addresses digital literacy, more specific efforts to train a specialized digital health workforce could enhance this aspect.	Developing a skilled workforce for digital health is crucial for implementation success. Further investment in digital health training and capacity-building is advisable.	Turkey's emphasis on digital skills aligns with workforce development. Fostering a skilled digital health workforce is pivotal for successful implementation.	Pakistan's focus on education and training suggests workforce development. Investing in specialized training for healthcare professionals in digital health can enhance implementation.	Nigeria's commitment to digital skills suggests potential for a skilled workforce. Enhancing healthcare-specific digital training for healthcare providers is important.	While the "Philippine Digital Strategy" underscores digital literacy, further investment in specialized digital health workforce development could enhance this aspect.
Legislation, Policy, and Compliance	Egypt's focus on digital policies and its Vision 2030 reflects legislative intent. Ensuring alignment of policies with digital health initiatives is important for compliance.	Establishing clear legal frameworks for digital health is important for regulatory compliance. Further policy development could enhance this aspect.	Turkey's "2023 Information Society Strategy" suggests policy alignment. Continued efforts to ensure compliance of digital health initiatives with regulatory frameworks are important.	The "Digital Pakistan" initiative suggests policy intent. Developing robust policies and regulatory frameworks specific to digital health can improve compliance.	Nigeria's National Digital Economy Policy and Strategy reflect policy intent. Strengthening legal frameworks for digital health is essential for compliance and success.	The "Philippine Digital Strategy" reflects policy intent for digital transformation. Ensuring alignment of policies with digital health initiatives is important for regulatory compliance.
Standards and Interoperability	While Egypt's initiatives reflect intent, further emphasis on data standards and interoperability could enhance the digital health ecosystem.	Iran's focus on expanding the digital economy should also encompass data standards and interoperability. Creating a standardized framework for data exchange is crucial.	Turkey's well-developed digital infrastructure could further benefit from emphasis on standardized data exchange. Ensuring interoperability is pivotal for successful digital health initiatives.	Pakistan's commitment to digital skills should extend to standardized data practices. Establishing interoperability standards can enhance the effectiveness of digital health solutions.	Nigeria's emphasis on digital skills could be supplemented by focus on data standards and interoperability. Ensuring consistent data exchange among healthcare systems is essential.	The Philippines' commitment to digital transformation could extend to establishing standardized data practices and interoperability standards. These factors are crucial for a cohesive digital health ecosystem.

Infrastructure	Egypt's efforts in building digital infrastructure, such as the "Digital Egypt Platform," contribute to success. Continued investment in expanding digital connectivity is important.	Expanding digital infrastructure is essential for digital health implementation. Ensuring widespread broadband access and reliable internet connectivity is pivotal.	Turkey's strong digital infrastructure enhances the effectiveness of digital health initiatives. Ongoing investment in infrastructure development is crucial.	Investment in digital infrastructure is necessary for the success of digital health projects. Expanding broadband access and improving connectivity are vital.	Nigeria's digital skills initiative should align with digital infrastructure development. Enhancing internet connectivity and expanding access are key for digital health progress.	Investment in digital infrastructure is pivotal for the success of digital health initiatives. Ensuring widespread broadband access and reliable internet connectivity is essential for enhancing healthcare delivery.
Services and Applications	The "Digital Egypt Platform" showcases digital health service offerings. Diversifying digital health applications and services could further enhance impact.	Iran's expansion of digital health services is commendable. Ensuring a broad spectrum of health-care applications can enhance patient care and engagement.	Turkey's range of digital services supports effective implementation. Continued expansion of services and applications can further improve healthcare delivery.	Expanding digital health services is crucial for impact. Ensuring a wide array of applications can enhance patient engagement and healthcare access.	Nigeria's focus on digital literacy should extend to digital health services. Expanding digital health applications can promote patient engagement and access to care.	The Philippines' "HealthHub" platform provides a range of digital health services. Expanding the diversity of digital health applications and services can further enhance the impact of healthcare digitization.

In conclusion, benchmarking these five countries using the criteria of Leadership and Governance, Investment and Sustainability, Workforce for Digital Health, Legislation, Policy and Compliance, Standards and Interoperability, Infrastructure, and Services and Applications reveals varying levels of success and areas for improvement. Each country demonstrates strengths in certain criteria, but there's room for enhancement in others. By learning from each other's successes and addressing their respective challenges, these countries can further advance their digital health strategies for the benefit of their populations.

# 04

## EGYPT DIGITAL HEALTH ECOSYSTEM



# EGYPT DIGITAL HEALTH ECOSYSTEM

## Building a Thriving Digital Health Ecosystem in Egypt: A Strategic Roadmap

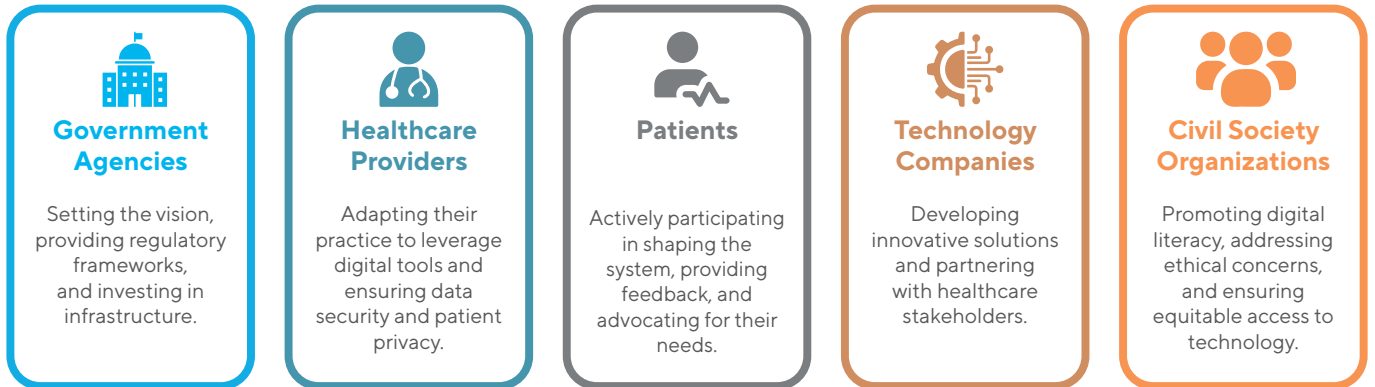
### Setting the Stage for Transformation

Egypt stands at a pivotal moment in its healthcare journey. As the nation embraces digital technologies, a unique opportunity arises to revolutionize healthcare delivery, improve patient outcomes, and bridge the gap in access to quality care. To navigate this exciting landscape, a well-defined digital health strategy is crucial. This strategic roadmap should be:



## Embracing Inclusivity: A Key Pillar for Success

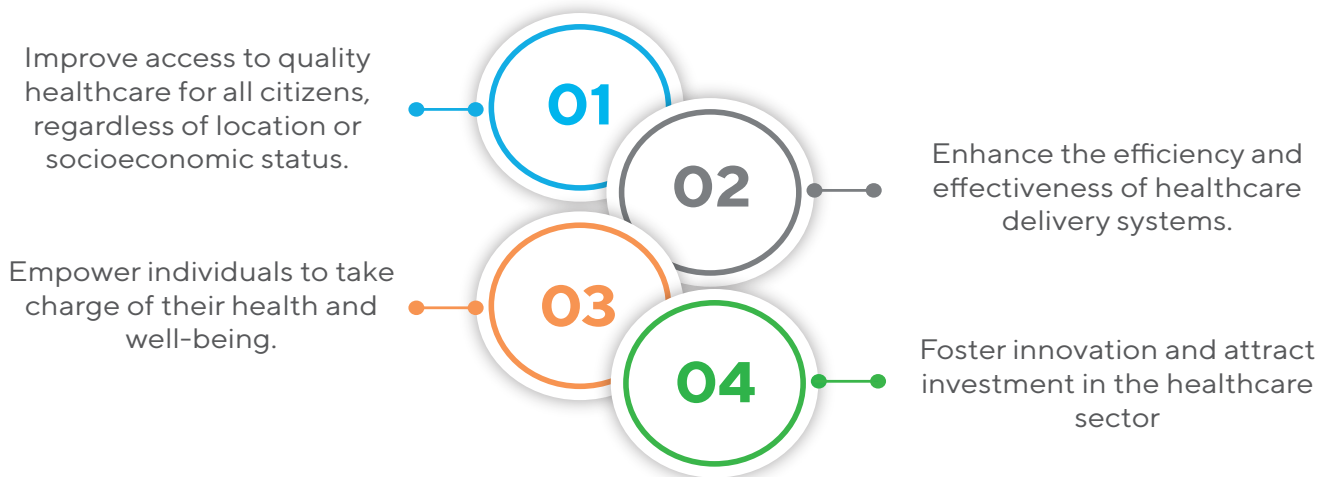
For Egypt’s digital health strategy to truly flourish, it needs to be inclusive and embrace the diverse voices and expertise of all stakeholders. This includes:



By working together, these stakeholders can bridge the digital divide, invest in essential infrastructure like broadband connectivity, and empower communities with the necessary skills and knowledge to participate fully in the digital health revolution.

## The Promise of a Healthier Future

By embracing a strategic, data-driven, and inclusive approach to digital health, Egypt can unlock its immense potential to:



# 05

## STAKEHOLDERS ANALYSIS & ENGAGEMENT PLAN



# STAKEHOLDERS ANALYSIS & ENGAGEMENT PLAN

## Background

Although the Ministry of Health and Population holds overall leadership and oversight over the healthcare ecosystem in Egypt stemming from its Public health responsibility to safeguard the health and well-being of the population and to continuously collect and analyzes health data to monitor population health trends, assess the effectiveness of healthcare interventions, and inform evidence-based policy decisions and to ensure readiness to respond in public health emergencies, such as disease outbreaks or natural disasters and its contribution to establishing and enforcing standards of care, safety, and quality in the healthcare system through formulating healthcare policies and regulations in consultation with other stakeholders and research entities to address a wide range of issues, including disease prevention, health promotion, healthcare delivery models, and health workforce development as per the context analysis.

Stemming from the real understanding that healthcare delivery in Egypt is only achievable through the collaboration of many stakeholders and entities who play a critical and influential role in healthcare delivery, management, and leadership this includes several other Ministries either providing healthcare services or supporting the Ministry of Health and Population to deliver efficient care or fund improvement processes. Other healthcare provider organizations (private and public) including specialized services and ancillary services as well as Community-Based Healthcare Organizations (CBO's), research institutions and the health care work force other supporting service providers as pharmacies and private clinics all will be affected by any digitalization process. and most importantly the individual and population at large the final customer who is affected by the organizational structure and any digitalization efforts.

## Objectives of Stakeholder Engagement

### A Comprehensive Perspective

Bringing in different stakeholder's viewpoints, expertise, and experiences and understanding their different challenges, opportunities, and potential solutions will ensure better outcomes.

### Social and Political Acceptance

Border stakeholder groups will be engaged at a stage when the broad pictures are nearly clear to avoid any social resistance or political implications and ensure that the changes are acceptable to the broader community.

### Effective Implementation of any proposed strategic intervention

Early active engagement in the process to understand the rationale behind the changes and directions proposed and how they fit into the broader objectives.



### Ensure Buy-in, Ownership and Commitment in a transparent process

Engage diverse stakeholders at varying levels, aligning with their contributions or managerial roles. ensure mutual benefits, foster understanding of the broader context, build trust, and prevent misinformation or misunderstandings about overarching objectives.

### Ensure Quality and Relevance











Ensure Quality proposed strategic directions and or proposed improvements that are aligned with the needs and expectations of Stakeholders.



To ensure the objectives of the stakeholder exercise is met while taking into consideration the specificity of Egypt, stakeholder was placed under one of 11 broad categories which were then place within the e-health toolkit.

## Broad categories classification of stakeholders in the digital health care field

### Ministry of Health and Population & subsidiaries

	<b>New social health insurance bodies</b> created by the 2018 law		<b>Other supporting ministries</b> (either providing service or supporting the MOHP in digital ecosystem development)
	<b>Healthcare provider organizations</b> These include public and private hospitals, clinics, and healthcare centers that offer medical services to the population		<b>Healthcare Associations/ Organizations and Healthcare Professionals</b> Physicians, nurses, pharmacists, and other healthcare workers in addition to unions for healthcare professionals
	<b>Patients and Communities</b> The individuals receiving healthcare services and their families		<b>Pharmaceutical Companies</b> Manufacturers and distributors of pharmaceuticals and medical supplies
	<b>Research and Academic Institutions</b> Universities, research centers, and think tanks contribute to the development of evidence-based healthcare policies and digital solutions		<b>Private Sector Companies</b> Companies involved in healthcare technology, medical equipment manufacturing, telemedicine, and other related industries.
	<b>Donors and Development Partners</b> International organizations, non-profits, and foreign governments that provide financial and technical support for healthcare programs, infrastructure, and capacity building		<b>Local and International NGOs</b> Non-governmental organizations focusing on specific health issues, such as infectious diseases, maternal and child health

## Stakeholder Mapping and Classification Exercise

### Identifying Stakeholders

- MOHP-led consultation identifies internal and external stakeholders.
- Verification and expansion through concurrent sessions for comprehensive inclusion.

### World Bank's Affiliation Classification

- Recommends grouping stakeholders into 4 categories (Public Sector, Academia, Private Sector, Development Agencies).
- Critique: Oversimplification of diverse public sector entities and oversight of non-service influencers.

### WHO/ITU Strategy Role Classification

- National e-health toolkit suggests categorizing stakeholders based on their role in strategy development.
- Ensures alignment with digital transformation efforts beyond service provision.

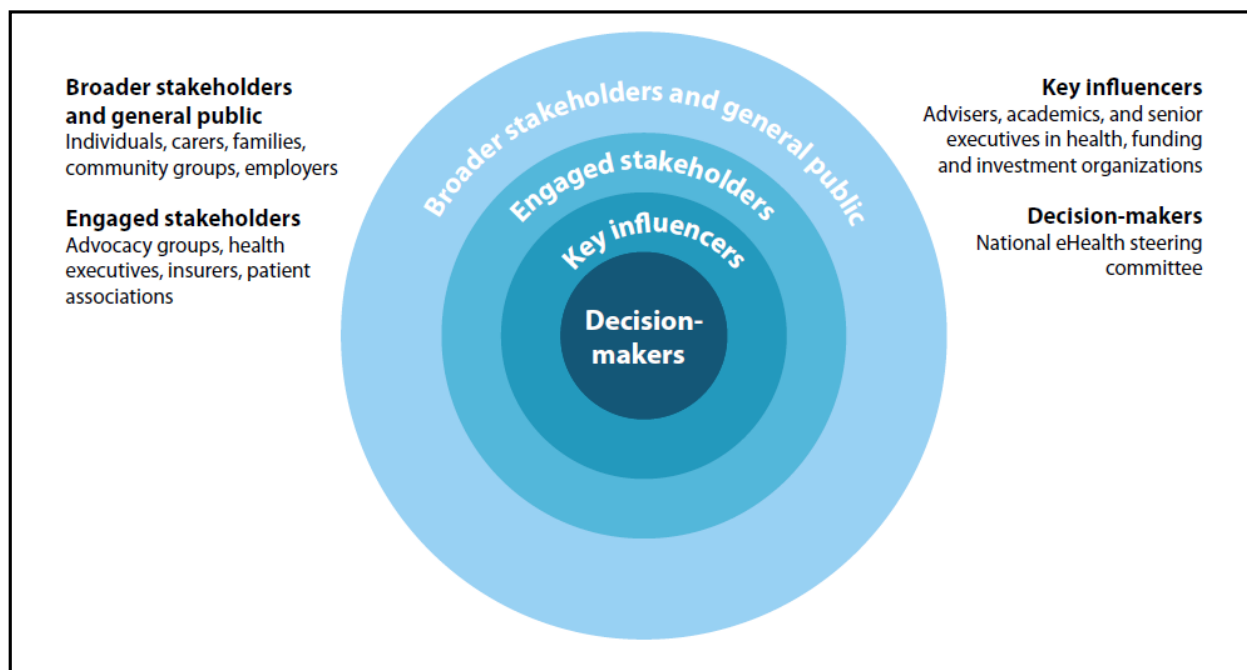








Figure 1: Stakeholders' classification according to role in developing national e-health vision<sup>1</sup>

<sup>1</sup>WHO National e-health strategy toolkit

## Stakeholder Engagement Process

 <b>Decision Makers</b>	 <b>Key Influencers</b>	 <b>Engaged Stakeholders</b>	 <b>Broad Stakeholders</b>
<ul style="list-style-type: none"> <li>Ministry of Health and Population &amp; subsidiaries</li> <li>social health insurance bodies</li> <li>Other supporting ministries</li> </ul>	<ul style="list-style-type: none"> <li>Donors and Development Partners</li> <li>Research and Academic Institutions</li> <li>Healthcare Provider organizations</li> </ul>	<ul style="list-style-type: none"> <li>Private Sector Companies</li> <li>Pharmaceutical Companies</li> <li>Healthcare Associations and Healthcare Professionals</li> </ul>	<ul style="list-style-type: none"> <li>Local and International NGOs</li> <li>Patients and Communities</li> </ul>

Category	Methodology of Engagement
 <b>Decision Makers</b>	<ol style="list-style-type: none"> <li>Stakeholder Engagement Workshops (small groups introducing main objectives and seeking inputs)</li> <li>Detailed Questionnaires / interviews for exact inputs</li> <li>Convergence workshop for consensus</li> </ol>
 <b>Key Influencers</b>	<ol style="list-style-type: none"> <li>Partners in development if appropriate.</li> <li>Detailed Questionnaires / interviews for exact inputs</li> <li>Seek inputs of key partners prior to convergence workshop</li> </ol>
 <b>Engaged Stakeholders</b>	<ol style="list-style-type: none"> <li>Inform of process and seek inputs.</li> <li>Seek inputs on outcomes of the process prior to consensus workshop</li> </ol>

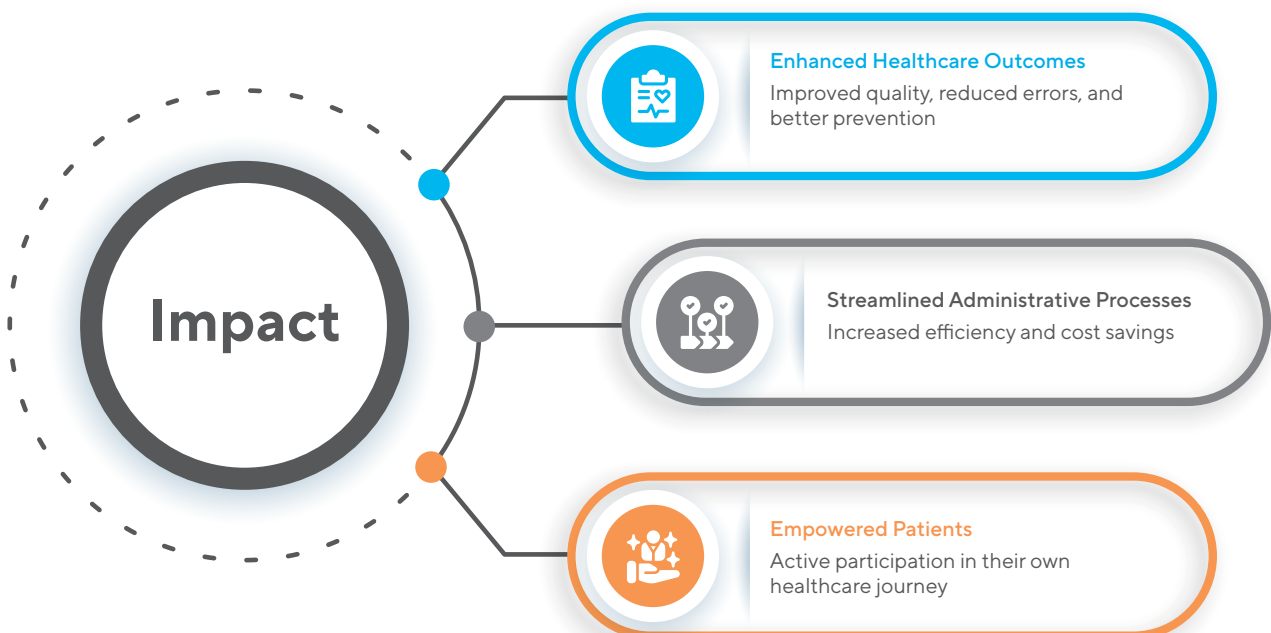
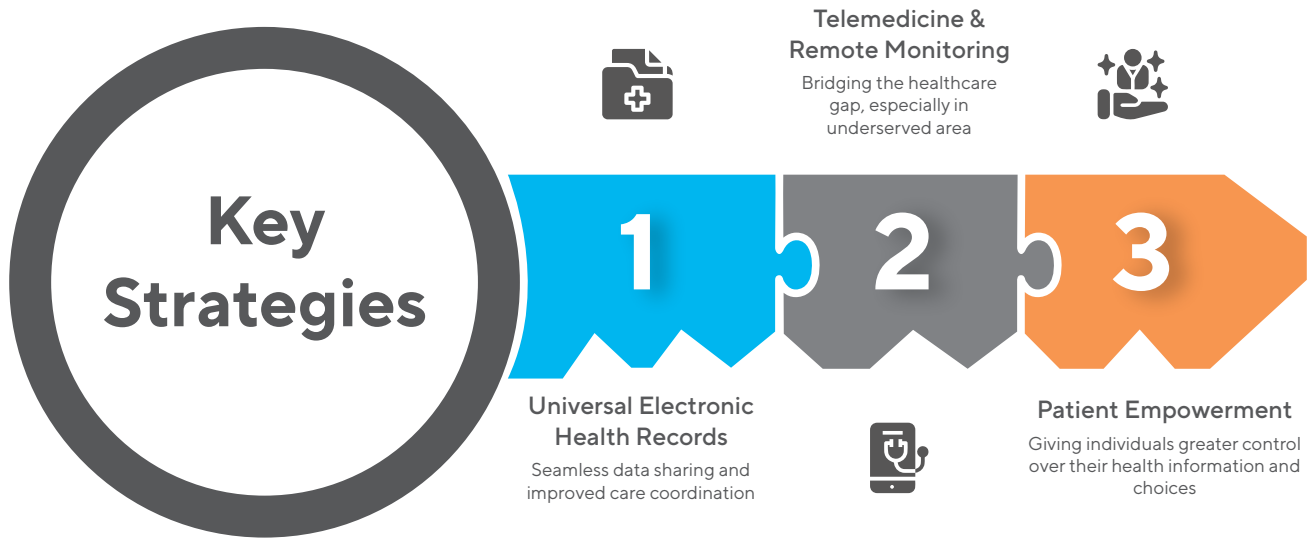
# 06

## DIGITALIZATION GOALS OF VISION 2030



# DIGITALIZATION GOALS OF VISION 2030

Egypt's Vision 2030 outlines the country's aspirations for socio-economic development across multiple sectors. The healthcare sector has set specific goals for digitalization to enhance efficiency, accessibility, and quality of healthcare services.



Egypt 2030 sees digitalization as the future of healthcare, paving the way for a healthier, more inclusive, and prosperous nation. The strategic digital goals include:

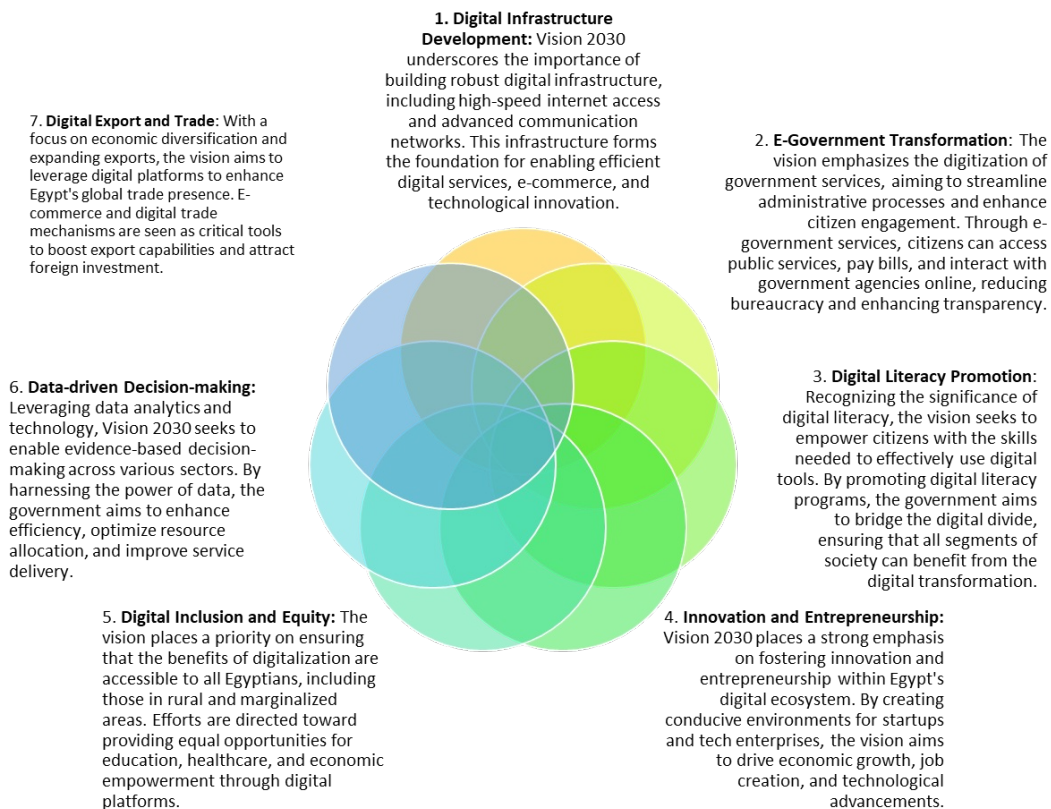


Figure 2: The digital objectives outlined in Egypt's Vision 2030

## Egypt Vision Statement

- Egyptians enjoy a healthy, safe, and secure life through a universal, high-quality healthcare system.
- Focus on early intervention, preventive coverage, protection of vulnerable populations, and citizen/health sector employee satisfaction.
- Aspires for prosperity, welfare, happiness, and leadership in healthcare services and research in the Arab world and Africa.

## Strategic Objectives



## Digital Transformation and Innovation

Vision 2030 emphasizes digitalization for economic growth, social inclusion, and innovation. Aims to position Egypt as a digital leader globally and regionally.

## Global Innovation Index (GII) Focus

- September 2021 update emphasizes improving Egypt’s GII ranking.
- Specific ICT sub-index goals: 2020) 50) and 2030) 30).
- Aligns with Vision 2030’s commitment to innovation and technology for sustainable development.



Figure 3: The Sustainable Development Strategy (Sds): Egypt Vision 2030 Main Pillars<sup>2</sup>

<sup>2</sup> [https://arabdevelopmentportal.com/sites/default/files/publication/sds\\_egypt\\_vision\\_2030.pdf](https://arabdevelopmentportal.com/sites/default/files/publication/sds_egypt_vision_2030.pdf)

# 07

## POLICIES THAT ENCOURAGE DIGITALIZATION





# POLICIES THAT ENCOURAGE DIGITALIZATION

## Digitalization Policies: Supporting Vision 2030

### Creating Enabling Policies and Regulations

Governments can encourage digital transformation in healthcare by creating enabling policies and regulations. Policies such as data privacy and security laws, e-prescription regulations, and telemedicine guidelines can encourage the adoption of digital healthcare services by ensuring that patient data is protected and digital healthcare services are provided safely and effectively. Governments can also provide tax incentives and other financial support to healthcare providers that adopt digital healthcare services<sup>3</sup>.



#### National Health Information Infrastructure (NHII)

- Developed by Universal Health Insurance Authority (UHIA).
- Facilitates secure health information exchange among diverse healthcare entities.
- Promotes interoperability and data standardization for a robust digital health ecosystem.



#### Data Protection Regulations

- Introduction of the Data Protection Law.
- Ensures privacy and security of digital health data.
- Safeguards patient information, promotes transparency, and prevents unauthorized access.



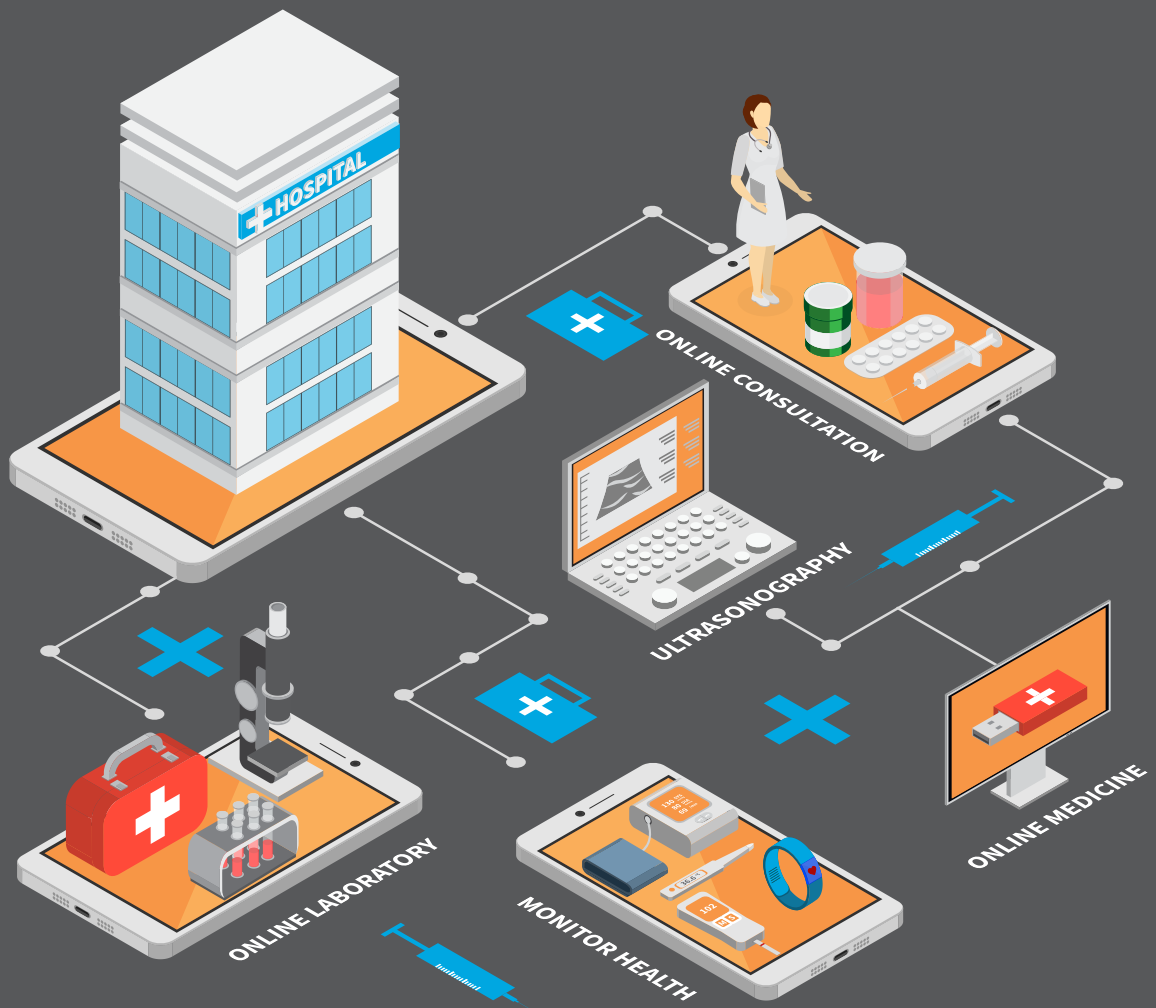
#### Conducive Environment

- Policies create an environment for digital health solution development.
- Fosters trust and confidence among healthcare providers and patients.
- Aligns with Vision 2030's digitalization goals for a technologically advanced healthcare sector.

<sup>3</sup><https://thehealthtech.org/how-can-government-policies-encourage-digital-transformation-in-healthcare/#:~:text=Policies20%such20%as20%data20%privacy,are20%provided20%safely20%and20%effectively.>

# 08

## GOVERNMENTAL DIGITAL INITIATIVES



# GOVERNMENTAL DIGITAL INITIATIVES

The Egyptian government has taken proactive measures to catalyze the digital transformation of the healthcare sector. One of the flagship initiatives is the creation of the Egyptian Health Information Exchange (EHIE). The EHIE is a centralized platform that facilitates the secure exchange of health information among healthcare providers, government agencies, and patients. It enables real-time access to patient records, lab results, and medical images, promoting collaboration and informed decision-making.

Additionally, the Ministry of Health and Population has launched the eHealth Egypt project, which aims to digitize healthcare operations and services nationwide. This initiative includes the development of mobile health applications, online appointment booking systems, and electronic prescription services. By embracing digital technologies, the government is striving to improve healthcare access, reduce waiting times, and enhance overall patient experience.

**Table 2:** National governmental digitalization initiatives in Egypt

	1. National Digital Identity Program	2. Digital Egypt Platform	3. Smart Agriculture Initiative	4. Universal Healthcare Access Program	5. National E-Learning Initiative	5. Financial Inclusion Drive
Objective	The initiative aims to provide every Egyptian citizen with a secure and universally accepted digital identity, facilitating access to government services and financial transactions.	The Digital Egypt Platform seeks to establish a comprehensive digital infrastructure to enhance government-citizen interaction and promote digital literacy.	This initiative aims to modernize and optimize Egypt's agricultural sector through digital technologies, promoting sustainable practices and increasing productivity.	The program seeks to ensure equitable access to quality healthcare services through digital means, especially in underserved areas.	To modernize education and promote lifelong learning, the initiative focuses on providing digital education resources and tools to students and educators.	This initiative aims to enhance financial inclusion by leveraging digital technologies to provide banking and financial services to underserved populations.
Implementation	Biometric data collection and verification processes are employed to create unique digital identities linked to citizens' national IDs.	The platform hosts a wide range of government services, including e-payments, document issuance, and citizen engagement tools.	IoT devices, data analytics, and remote sensing tools are employed to monitor crops, irrigation, and soil conditions.	Telemedicine services, mobile health units, and online medical consultation platforms are established to provide remote healthcare services.	Online learning platforms, digital content creation tools, and teacher training programs are introduced to enhance the education ecosystem.	Digital payment solutions, mobile banking platforms, and agent banking networks are established to make banking services accessible to remote areas.
Adoption	The program's digital IDs are increasingly being adopted for online transactions, e-government services, and accessing social benefits.	The platform's services have gained traction, enabling citizens to interact with government agencies digitally and reducing bureaucratic processes.	Farmers are adopting smart agriculture practices, leading to improved crop yields, reduced resource wastage, and enhanced resource management.	Citizens in remote and rural areas are increasingly benefiting from telemedicine, enabling them to consult with healthcare professionals remotely.	Schools and universities have integrated e-learning tools, offering blended learning experiences that combine traditional and digital methods.	Citizens who previously lacked access to formal banking services are now using digital wallets and mobile banking to conduct transactions and manage finances.
Current Status	The program has made significant progress, with millions of citizens enrolled and actively using their digital identities for various purposes.	The Digital Egypt Platform is operational, with ongoing updates and enhancements to improve user experience and expand service offerings.	The initiative has gained momentum, with an increasing number of farmers integrating digital solutions into their agricultural practices.	The program is expanding, with ongoing efforts to enhance telemedicine infrastructure and reach more underserved communities.	The initiative has seen substantial adoption, particularly in response to the COVID19-pandemic, driving the shift toward more digital learning approaches.	The initiative has gained significant traction, with a growing number of individuals and businesses adopting digital financial solutions, contributing to increased financial literacy and economic empowerment.

# 09




## DIGITAL HEALTH INITIATIVES IN EGYPT



# DIGITAL HEALTH INITIATIVES IN EGYPT

## Rural Healthcare Goes Digital

“Egypt’s digital revolution is transforming healthcare, putting health in everyone’s hands”.

 <h3>Doctors on Demand</h3> <p>Telemedicine beams city expertise to rural villages, saving travel, bridging the specialist gap</p>	 <h3>Empowered Patients</h3> <p>Mobile health apps, your pocket health coach, empower smart choices with reminders, education, and easy appointment booking</p>	 <h3>Data for a Healthier Future</h3> <p>Every tap feed research, fighting disease smarter</p>
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## Key Initiatives Boosting Egypt’s Healthcare

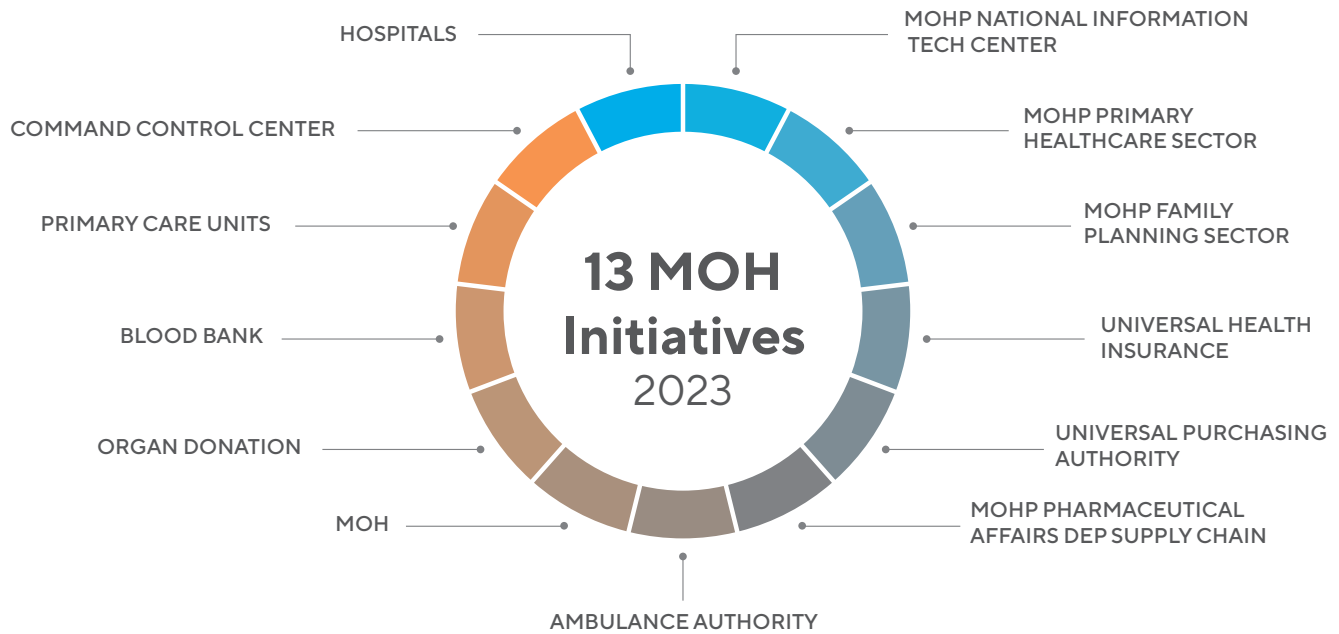
### 3 Digital Lifesavers

These digital initiatives are reshaping Egyptian healthcare, putting patients and quality care at the heart of the journey

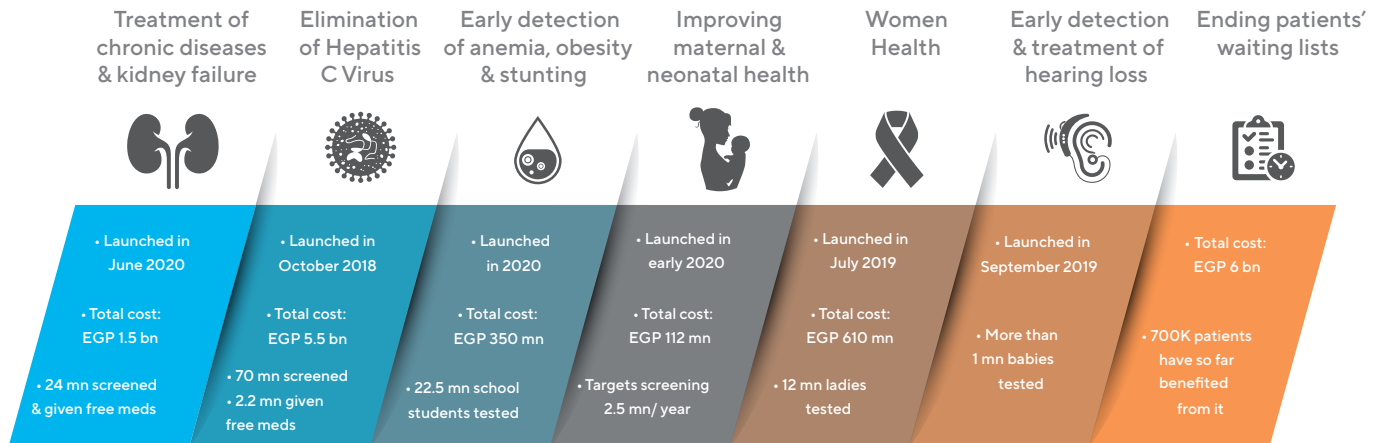
 <h3>Electronic Health Records</h3>	 <h3>Telemedicine</h3>	 <h3>Health Information Exchange</h3>
<p>Shared patient data, better care coordination, smarter decisions. Personalized medicine for a healthier future</p>	<p>Doctors on demand, no matter your location. Rural areas empowered, specialized care within reach</p>	<p>Seamless data flow, no testing double-ups. Efficient healthcare, saving time and resources.</p>

## National – Projects and Initiatives

Since 2018, the government has launched several **public health initiatives** in Egypt at a total cost of **EGP 14.2 bn**. This has helped in building a database covering more than **70 million Egyptians**.



## Presidential Initiatives for Health in Egypt



Source: Statement by Health Minister Hala Zayed in February 2021

# 10

## MOVING TOWARD FULL DIGITAL HEALTH SYSTEMS



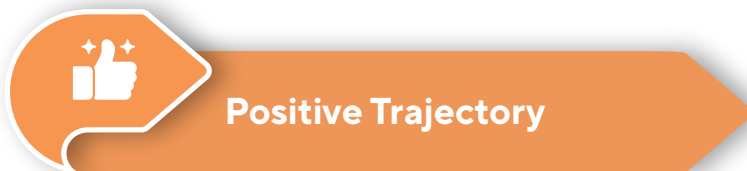
## MOVING TOWARD FULL DIGITAL HEALTH SYSTEMS



Seamless data exchange, improved care coordination, and better patient outcomes through EHRs, telemedicine, and mobile apps.



Building infrastructure, ensuring data security, increasing digital literacy among healthcare Sector.



Aligned with Vision 2030, Egypt prioritizes supportive policies, government initiatives, and innovative projects to achieve a fully integrated digital healthcare system.

Therefore the strategic context of digital health in Egypt holds immense potential for transforming healthcare delivery.



# 11

## GLOBAL DIGITAL HEALTH MONITOR (GDHM)

COUNTRY SCORECARD REPORT: EGYPT- APRIL 2024



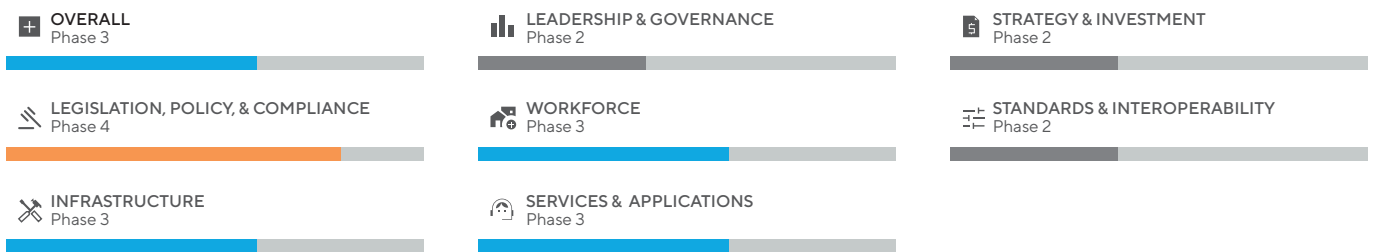
# GLOBAL DIGITAL HEALTH MONITOR (GDHM) COUNTRY SCORECARD REPORT: EGYPT - APRIL 2024

Egypt actively pursues a multifaceted digital health strategy as captured by GDHM indicators.

Progress shines in specific areas, while potential remains untapped in others. This analysis celebrates achievements and identifies challenges for a digitally empowered healthcare future..

**In 2023, Egypt’s digital health landscape reveals varying phases across the Global Digital Health Maturity (GDHM) indicators, reflecting the nation’s progress and areas for further development.**

These phases provide an overview of Egypt’s progress in digital health, reflecting both ongoing efforts and areas for further development within the GDHM framework.



## Phase Overview

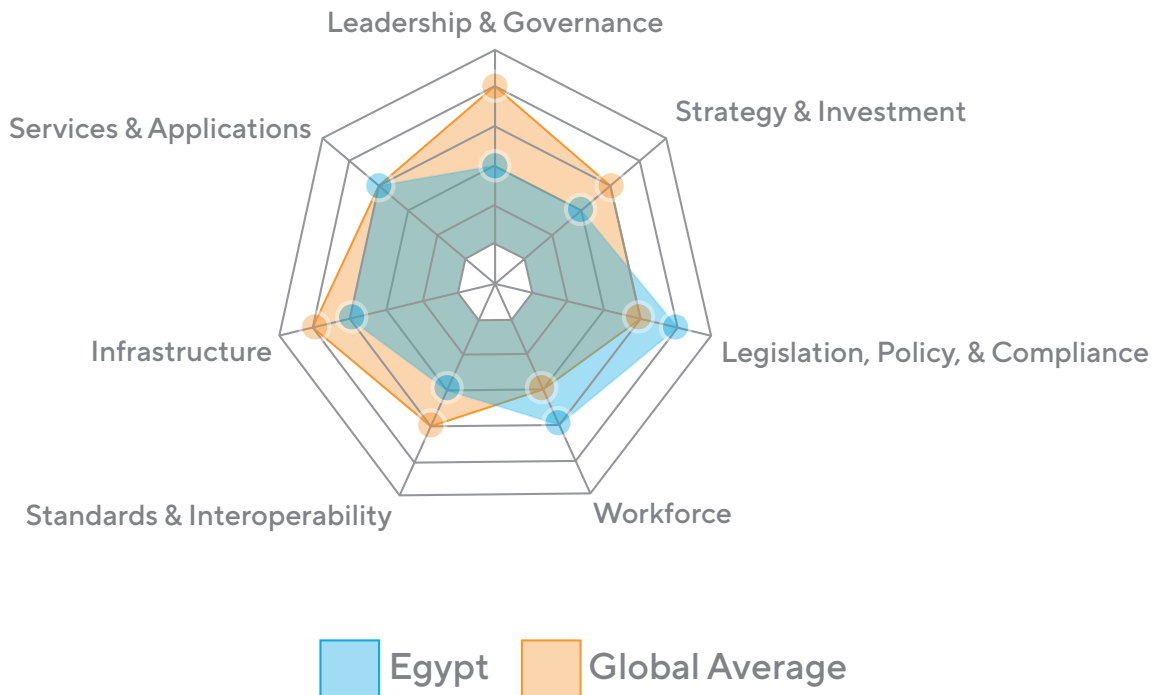


Figure 4: State of Digital Health around the world today-Global Digital Health Monitor

**Table 3: GDHM EGYPT 2023**

GDHM Indicator	Phase in 2023	Global Average [Benchmark]	Highest Maturity Phase
<p><b>Leadership and Governance</b></p> <p><b>Indicator 1:</b> Digital health prioritized at the national level through dedicated bodies / mechanisms for governance.</p>	<p><b>Phase 2</b> Governance structure is formally constituted though not fully-functional or meeting regularly</p>	<p><b>Phase 4</b> Governance structure is fully-functional, government-led, consults with other ministries, and monitors implementation of digital health based on a work plan.</p>	<p><b>Phase 5</b> The digital health governance structure is institutionalized, consults with other ministries, and monitors implementation of digital health. It is relatively protected from interference or organizational changes. It is nationally recognized as the lead for digital health. The governance structure and its technical working groups emphasize gender balance in membership.</p>
<p><b>Leadership and Governance</b></p> <p><b>Indicator 2:</b> Digital health prioritized at the national level through planning</p>	<p><b>Phase 2</b> There is some discussion of inclusion of digital health in national health or other relevant national strategies or plans. Proposed language for inclusion of digital health in national health or relevant national strategies and/or plans has been made and is under review.</p>	<p><b>Phase 4</b> Digital health is being implemented as part of national health or other relevant national strategies and/or plans.</p>	<p><b>Phase 5</b> Digital health is implemented and periodically evaluated and optimized in national health or other relevant national strategies and/or plans.</p>
<p><b>Leadership and Governance</b></p> <p><b>Indicator 2a:</b> Health is prioritized in national digital transformation and data governance policies.</p>	<p><b>Phase 2</b> National digital transformation and data governance policies include potential benefits and risks on public health or individual health outcomes on an ad hoc basis.</p>	N/A	<p><b>Phase 5</b> All relevant digital transformation and data governance policies fully consider potential benefits and risks for health systems, determinants of health and individual health outcomes (including for children, women and vulnerable groups) and have multisectoral strategies that are fully implemented.</p>
<p><b>Leadership and Governance</b></p> <p><b>Indicator 3:</b> Readiness for emerging technologies adoption and governance (Is there a national plan specific to emerging technologies (e.g., AI, Wearables, Blockchain, IoT) to support public health goals?)</p>	<p><b>Phase 1</b> There are no emerging technologies (e.g., AI, Wearables, Blockchain, IoT) plan in support of public health goals.</p>	<p><b>Phase 2</b> A plan was developed for at least one emerging technology (e.g., AI, Wearables, Blockchain, IoT) to support public health goals, but it is not being implemented.</p>	<p><b>Phase 5</b> National digital health strategy and costed plan fully implemented with planning underway for the next 5-3 year cycle.</p>
<p><b>Leadership and Governance</b></p> <p><b>Indicator 4:</b> Diversity, Equity, and human rights analysis, planning and monitoring included in national digital health strategies and plans (Has the country assessed/adapted national digital health strategies from an equity and human rights perspective?)</p>	<p><b>Phase 3</b> Digital health strategies and programs are developed and implemented with formal consideration of equity and human rights implications with no strategy(s) for addressing them.</p>	<p><b>Phase 4</b> Digital health strategies and programs are developed and implemented with formal consideration of equity and human rights implications with ad hoc strategy(s) for addressing them.</p>	<p><b>Phase 5</b> The country is implementing and evaluating the effects of digital health strategies and specific digital health solutions based on equity and human rights impact assessments. Documented strategies are in place to addressing address gaps in access and outcomes for different population groups, including women, children, and marginalized groups.</p>
<p><b>Leadership and Governance</b></p> <p><b>Indicator 4a:</b> Gender considerations accounted for in digital health strategies and digital health governance</p>	<p><b>Phase 3</b> Digital health strategies and programs are developed and implemented with systematic consideration of gender norms, roles, and relations without the policies or structures for accountability (gender-sensitive).</p>	N/A	<p><b>Phase 5</b> Digital health strategies, policies, and interventions address gender inequality and foster progressive change in gender dynamics based on routine gender analyses and impact assessments (gender transformative).</p>
<p><b>Strategy and Investment</b></p> <p><b>Indicator 5:</b> National eHealth/ Digital Health Strategy or Framework</p>	<p><b>Phase 1</b> There is no digital health strategy or framework. Draft digital health strategy or framework developed, but not officially reviewed.</p>	<p><b>Phase 3</b> There is a law on data security (storage, transmission, use) that is relevant to digital health that has been passed, but has not yet been fully implemented.</p>	<p><b>Phase 5</b> There is a law on data security (storage, transmission, use) that is relevant to digital health that has been implemented and enforced consistently.</p>
<p><b>Strategy and Investment</b></p> <p><b>Indicator 5A:</b> National digital strategy alignment with Universal Health Coverage (UHC) Core Components</p>	<p><b>Phase 1</b> Digital health strategy does not exist or exists and is not aligned to UHC and does not address any of the core UHC components of coverage, access, uptake, quality, and equity.</p>	N/A	<p><b>Phase 5</b> Digital health strategy is fully aligned to the country's UHC goals and includes metrics to assess the contribution of digital health toward UHC targets.</p>

<b>Strategy and Investment</b>  <b>Indicator 6:</b> Public funding for digital health (Is public funding (including loans) for digital health sufficient for the digital health strategies, priorities (needs), or costed plan of the country?)	<b>Phase 2</b> Non-systematic budget allocated for digital health exists or are projects and/or system-based.	<b>Phase 3</b> A structured and systematic budget line item for digital health exists but is significantly insufficient (less than %50 of need) to meet the country's digital health needs.	<b>Phase 5</b> Structure and systematic budget line exists for digital health and is completely sufficient to meet the country's digital health needs.
<b>Strategy and Investment</b>  <b>Indicator 6a:</b> Private sector participation and investments in digital health	<b>Phase 3</b> The private sector participation and investment in the country's digital health activities is systematic but does not meet the needs of the country.	N/A	<b>Phase 5</b> The private sector participates and invests in the country's digital health activities in an optimized environment.
<b>Legislation, Policy, and Compliance</b>  <b>Indicator 7:</b> Legal Framework for Data Protection (Security)	<b>Phase 3</b> There is a law on data security (storage, transmission, use) that is relevant to digital health that has been passed, but has not yet been fully implemented.	<b>Phase 4</b> There is a law on data security (storage, transmission, use) that is relevant to digital health that has been implemented, but not consistently enforced.	<b>Phase 5</b> There is a law on data security (storage, transmission, use) that is relevant to digital health that has been implemented and enforced consistently.
<b>Legislation, Policy, and Compliance</b>  <b>Indicator 8:</b> Laws or Regulations for privacy, consent, confidentiality, and access to health information (Privacy)	<b>Phase 4</b> There is a law to protect individual privacy, governing ownership, access, consent, and sharing of individually identifiable digital health data that has been implemented, but not consistently enforced.	<b>Phase 4</b> There is a law to protect individual privacy, governing ownership, access, consent, and sharing of individually identifiable digital health data that has been implemented, but not consistently enforced.	<b>Phase 5</b> There is a law to protect individual privacy, governing ownership, access, consent, and sharing of individually identifiable digital health data that has been implemented and is enforced consistently. Specific laws and protections are in place to protect the privacy of children and other vulnerable groups.
<b>Legislation, Policy, and Compliance</b>  <b>Indicator 9:</b> Protocol for regulating or certifying devices and/or health services- including provisions for AI and algorithms (at higher stages of maturity)	<b>Phase 2</b> Protocols, policies, frameworks or accepted processes governing the clinical and patient care use of connected medical devices and digital health services (e.g. telemedicine, applications), particularly in relation to safety, data integrity and quality of care have been proposed and are under review.	<b>Phase 3</b> Protocols, policies, frameworks or accepted processes governing the clinical and patient care use of connected medical devices and digital health services (e.g. telemedicine, applications), particularly in relation to safety, data integrity and quality of care have been passed, but are not fully implemented.	<b>Phase 5</b> Protocols, policies, frameworks or accepted processes governing the clinical and patient care use of connected medical devices and health services (e.g. telemedicine, applications), particularly in relation to safety, data integrity and quality of care - including provisions for AI and algorithms- have been implemented and are enforced consistently.
<b>Legislation, Policy, and Compliance</b>  <b>Indicator 9a:</b> Protocol for regulating and certifying AI within health services	<b>Phase 1</b> There are no protocols, policies, frameworks, or accepted processes governing AI use in health services.	N/A.	<b>Phase 5</b> Protocols, policies, frameworks, or accepted processes governing AI use in health service have been implemented and are enforced consistently.
<b>Legislation, Policy, and Compliance</b>  <b>Indicator 10:</b> Cross-border data security and sharing	<b>Phase 5</b> Protocols, policies, frameworks or accepted processes for cross border data exchange and storage in support of public health goals while protecting individual privacy have been implemented and enforced consistently.	<b>Phase 3</b> Protocols, policies, frameworks or accepted processes for cross border data exchange and storage in support of public health goals while protecting individual privacy have been passed but are not fully implemented.	<b>Phase 5</b> Protocols, policies, frameworks or accepted processes for cross border data exchange and storage in support of public health goals while protecting individual privacy have been implemented and enforced consistently.
<b>Workforce</b>  <b>Indicator 11:</b> Digital health integrated in health and related professional pre-service training (prior to deployment)	<b>Phase 1</b> There is no digital health curriculum for health professionals as part of pre-service training requirements.	<b>Phase 2</b> Digital health curriculum proposed and under review as part of pre-service training requirements.	<b>Phase 5</b> Digital health taught in relevant institutions with >%75 of health professionals receiving pre-service training.
<b>Workforce</b>  <b>Indicator 12:</b> Digital health integrated in health and related professional in-service training (after to deployment)	<b>Phase 3</b> There is no digital health curriculum as part of in-service (continuing education) training for health professionals in the workforce.	<b>Phase 2</b> Digital health curriculum proposed and under review as part of in-service (continuing education) training for health professionals in the workforce.	<b>Phase 5</b> Digital health curriculum is implemented as part of in-service (continuing education) training for %75-50 health professionals in the workforce.
<b>Workforce</b>  <b>Indicator 13:</b> Training of digital health work force	<b>Phase 4</b> Trained digital health professionals available and deployed, but essential personnel gaps remain.	<b>Phase 3</b> Professional training is available, but graduates are not yet deployed.	<b>Phase 5</b> Sufficient numbers of trained digital health professionals available to support national digital health needs.

# Prioritization Model Adopted from Digital-in-Health by The World Bank

## THE WAY FORWARD: STRATEGIC PRIORITIES

### 3 Key Points to Grow Digital Health in Egypt Fairly



#### **Prioritize**

Invest in evidence-based digital solutions tackling critical issues like communication gaps and telemedicine access for both patients and healthcare providers.



#### **Connect**

Ensure interoperability between systems, data security, and transparency for information sharing, leading to clear and open patient care.



#### **Expand**

Secure funding and upskill the workforce to develop sustainable digital solutions benefiting all Egyptians in the long term, fostering trust and utilization.

**“This prioritizes impact, strengthens the core, and empowers growth for a fair and thriving digital health ecosystem in Egypt”.**



#### **PRIORITIZE**

solve pernicious and interactable health challenges



#### **CONNECT**

Deliver seamless health services



#### **SCALE**

Equitable and sustainable access to healthcare

Figure 5: Digital-in-Health Model by The World Bank

<p><b>Workforce</b></p> <p><b>Indicator 14:</b> Maturity of public sector digital health professional careers</p>	<p><b>Phase 1</b> No workforce strategy, policy, or guide that recognizes digital health is in place. Distribution of digital health work force is ad hoc.</p>	<p><b>Phase 2</b> A national needs assessment shows the number and types of skills needed to support digital health with an explicit focus on training cadres of female health workers.</p>	<p><b>Phase 5</b> A long-term plan is in place to grow and sustain staff with the skills needed to sustain digital health at national and subnational levels with an explicit focus on training cadres of female health workers with an estimated &gt;75% of positions needed filled. Performance management systems are in place to ensure growth and sustainability of the digital health workforce with sufficient supply to meet digital health needs and little staff turnover.</p>
<p><b>Standards and Interoperability</b></p> <p><b>Indicator 15:</b> National digital health architecture and/or health information exchange</p>	<p><b>Phase 1</b> There is no national digital health (eHealth) architectural framework and/or health information exchange (HIE) established.</p>	<p><b>Phase 3</b> The national digital health architecture and/or health information exchange (HIE) is operable and provides core functions, such as authentication, translation, storage and warehousing function, guide to what data is available and how to access it, and data interpretation.</p>	<p><b>Phase 5</b> The national digital health architecture and/or health information exchange (HIE) provides core data exchange functions and is periodically reviewed and updated to meet the needs of the changing digital health architecture. There is continuous learning, innovation, and quality control. Data is actively used for national health strategic planning and budgeting.</p>
<p><b>Standards &amp; Interoperability</b></p> <p><b>Indicator 16:</b> Health information standards</p>	<p><b>Phase 2</b> There are some digital health / health information standards for data exchange, transmission, messaging, security, privacy, and hardware that have been adopted and/or are used.</p>	<p><b>Phase 3</b> Digital health / health information standards for data exchange, transmission, messaging, security, privacy, and hardware have been published and disseminated in the country under the government's leadership.</p>	<p><b>Phase 5</b> Data standards are routinely updated and data is actively used for monitoring and evaluating the health system and for national health strategic planning and budgeting.</p>
<p><b>Infrastructure</b></p> <p><b>Indicator 17:</b> Network readiness Extract the Portland institute technology pillar of network readiness index score (<a href="https://networkreadinessindex.org">https://networkreadinessindex.org</a>)</p>	<p><b>Phase 3</b> 50-26</p>	<p><b>Phase 4</b> 75-51</p>	<p><b>Phase 5</b> &gt;75</p>
<p><b>Infrastructure</b></p> <p><b>Indicator 18:</b> Planning and support for ongoing digital health infrastructure maintenance</p>	<p><b>Phase 3</b> A plan for supporting digital health infrastructure (including equipment-computers/ tablets/ phones, supplies, software, devices, etc.) provision and maintenance has been implemented partially, but not consistently with estimated %25-0 of necessary digital health infrastructure needed in public healthcare service sector available and in use.</p>	<p><b>Phase 4</b> A plan for supporting digital health infrastructure (including equipment-computers/ tablets/ phones, supplies, software, devices, etc.) provision and maintenance has been implemented partially and consistently with estimated %50-25 of necessary digital health infrastructure needed in public healthcare service sector available and in use.</p>	<p><b>Phase 5</b> Digital health infrastructure (including equipment- computers/ tablets/ phones, supplies, software, devices, etc.) is available, in use, and regularly maintained and upgraded in &gt;75% of public healthcare service sector. Strategies are being implemented to close outstanding gaps in access/ coverage and reach the whole population.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 19:</b> Nationally scaled digital health systems</p>	<p><b>Phase 3</b> Some national priority areas supported by scaled digital health systems (%50-25 of priority areas).</p>	<p><b>Phase 3</b> Some national priority areas supported by scaled digital health systems (%50-25 of priority areas).</p>	<p><b>Phase 5</b> All nationally prioritized areas supported by national-scale digital health systems (&gt;75%) with monitoring and evaluation systems and results.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 20:</b> Digital identity management of service providers, administrators, and facilities for digital health, including location data for GIS mapping</p>	<p><b>Phase 3</b> Health system registries of uniquely identifiable providers, administrators, and public facilities (and private if applicable) are available for use, but incomplete, partially available, used sporadically, and irregularly maintained.</p>	<p><b>Phase 3</b> Health system registries of uniquely identifiable providers, administrators, and public facilities (and private if applicable) are available for use, but incomplete, partially available, used sporadically, and irregularly maintained.</p>	<p><b>Phase 5</b> A secure registry exists, is available and in active use and includes &gt;75% of the relevant population. The data is available, used, and curated. Strategies are being implemented to include missing data and ensure fully representative datasets are available.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 21:</b> Digital identity management of individuals for health</p>	<p><b>Phase 3</b> A secure registry exists, is available and in active use and includes &lt;%25 of the relevant population.</p>	<p><b>Phase 3</b> A secure registry exists, is available and in active use and includes &lt;%25 of the relevant population.</p>	<p><b>Phase 5</b> A secure registry exists, is available and in active use and includes &gt;75% of the relevant population. The data is available, used, and curated. Strategies are being implemented to include missing data and ensure fully representative datasets are available.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 21a:</b> Digital identity management of individuals for health (Secure master patient index)</p>	<p><b>Phase 3</b> A master patient index exists, is available and in active use and includes &lt;%25 of the relevant population.</p>	<p>N/A</p>	<p><b>Phase 5</b> A master patient index exists, is available and in active use and includes &gt;75% of the relevant population. The data is available, used, and curated. Strategies are being implemented to include %100 of the population.</p>

<p><b>Services &amp; Applications</b></p> <p><b>Indicator 21b:</b> Digital identity management of individuals for health (Birth Registry)</p>	<p><b>Phase 5</b> A secure birth registry exists, is available and in active use and includes &gt;%75 of the relevant population. The data is available, used, and curated. Strategies are being implemented to include %100 of the population.</p>	<p>N/A</p>	<p><b>Phase 5</b> A secure birth registry exists, is available and in active use and includes &gt;%75 of the relevant population. The data is available, used, and curated. Strategies are being implemented to include %100 of the population.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 21c:</b> Digital identity management of individuals for health (Death Registry)</p>	<p><b>Phase 5</b> A secure death registry exists, is available and in active use and includes &gt;%75 of the relevant population. The data is available, used, and curated. Strategies are being implemented to include %100 of the population.</p>	<p>N/A</p>	<p><b>Phase 5</b> A secure death registry exists, is available and in active use and includes &gt;%75 of the relevant population. The data is available, used, and curated. Strategies are being implemented to include %100 of the population.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 22:</b> Secure Patient Feedback Systems</p>	<p><b>Phase 3</b> A secure feedback system exists, is available and in active use and includes data from &lt;%25 of the relevant health services and/or geographic location. It is available to some of the population.</p>	<p><b>Phase 2</b> A secure patient feedback system exists for some health services, but is incomplete/ partially available, used, and irregularly maintained.</p>	<p><b>Phase 5</b> A secure feedback system exists, is available in accessible formats and in active use and includes data from &gt;%75 of the relevant health services and/or geographic location. It is available to %100 of the population.</p>
<p><b>Services &amp; Applications</b></p> <p><b>Indicator 23:</b> Population health management contribution of digital health</p>	<p><b>Phase 3</b> Digital systems are used at facility or community levels and contribute to the country's public health reporting and decision-making for population health management.</p>	<p><b>Phase 3</b> Digital systems are used at facility or community levels and contribute to the country's public health reporting and decision-making for population health management.</p>	<p><b>Phase 5</b> Digital systems used at all levels, including by individuals, contribute to timely country public health reporting and decision making for population health management.</p>

# 12

## Prioritization Model adopted from Digital-in-Health by The World Bank





This model highlights three key areas of focus for the Egyptian government in promoting fair and effective growth in digital health. Let's expand on each of these areas to provide a more comprehensive understanding of their importance:

### **(a) Prioritize: Allocating Resources to Proven Solutions**

Prioritizing digital health initiatives involves the strategic allocation of resources to solutions that have a proven track record of effectiveness. It's essential to identify and invest in projects that address critical healthcare challenges. By concentrating on initiatives supported by evidence, the government can maximize the impact of its investments and ensure that digital solutions directly contribute to improved patient care and healthcare delivery.

#### **Examples of Prioritization:**

- Investing in telemedicine platforms that have demonstrated improved access to healthcare in underserved areas.
- Allocating resources to digital solutions that enhance communication and information exchange among healthcare providers, reducing medical errors and improving patient outcomes.

### **(b) Connect: Integrating Data and Systems for Better Care**

Connecting healthcare systems, data, and information is crucial for efficient and transparent healthcare delivery. Interoperability enables healthcare workers to access patient records and history seamlessly, leading to more informed treatment decisions. Patients benefit from trust in secure data sharing, ensuring that their medical information is protected while supporting better healthcare outcomes through comprehensive, connected records.

#### **Examples of Connecting Healthcare Systems:**

- Implementing Electronic Health Records (EHRs) that can be accessed by healthcare providers across different locations, promoting continuity of care.
- Establishing secure data sharing protocols to enable patients to share their medical history and information with healthcare professionals as needed.

### **(c) Expand Access: Public-Private Partnerships and Digital Literacy**

Expanding access to digital healthcare involves securing funding through partnerships with the private sector and investing in the knowledge and skills needed for digital solution development. It's essential to build trust and confidence in digital technology among both healthcare professionals and the public. When people have faith in digital tools, they are more likely to use them, resulting in enhanced healthcare services and outcomes.

#### **Examples of Expanding Access:**

- Partnering with private tech companies to develop and deploy digital healthcare solutions that are accessible to a wide range of individuals.
- Investing in training and digital literacy programs for healthcare workers and the general population to ensure effective and equitable use of digital health tools.

In conclusion, prioritizing, connecting, and expanding access are interconnected strategies that can drive the fair and effective growth of digital health in Egypt. By focusing on evidence-based prioritization, seamless connectivity, and building trust through partnerships and education, the government can create a healthcare ecosystem that leverages digital technology to benefit patients, healthcare providers, and the entire population.

# 13

## Prioritization Logic Framework



## Prioritization Logic Framework

**Table 4:** Logic Framework from Challenges to Priorities

Common Challenges for Selected Countries	Challenges for growing the digital aspects of health system	Digital-in-Health Mindsets	Strategic Priorities
<b>1. Limited Infrastructure</b>	Opportunistic, short-term, and provider-focused approaches that do not put people first	<b>PRIORITIZE</b> to solve intractable and growing health challenges with digital solutions	<b>Infrastructure, Solutions, and Interoperability</b>
<b>2. Healthcare System Fragmentation</b>	Leadership gaps, and disjointed, siloed digital solutions that makes it difficult to generate, link or use data	<b>CONNECT</b> to deliver new, more, better, and seamless health services that a changing world requires	<b>Better citizen and staff experience</b>
<b>3. Health Literacy and Awareness</b>			
<b>4. Health Information Privacy and Security</b>	Piecemeal efforts with inadequate financing, capacity, and trust in digital technology	<b>SCALE</b> to ensure equitable access to health care for everyone and leave no one behind	<b>Policy, Governance and Financing</b>
<b>5. Financial Constraints</b>			

# 14

## Prioritization Matrix



# PRIORITIZATION MATRIX

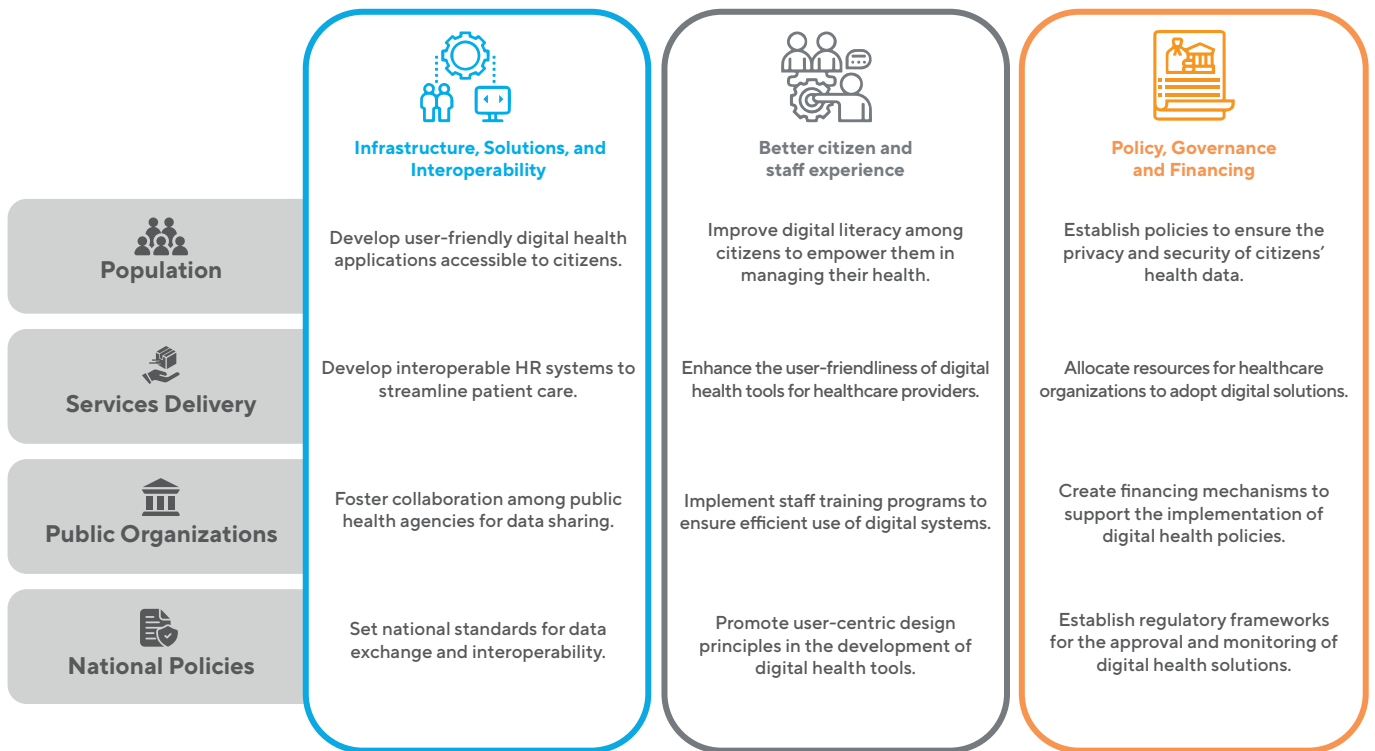


Figure 6: Priorities Matrix - Strategic Priorities, Target Groups and Strategic Initiatives

The strategic priorities and target groups on a matrix with vertical and horizontal axes. This matrix can serve as a framework for identifying key areas of focus within the context of digital health strategy. Here’s a breakdown of how these priorities align with the target groups:

## Strategic Priorities



### Infrastructure, Solutions, and Interoperability

This priority focuses on building the foundational digital infrastructure, developing innovative solutions, and ensuring seamless data exchange (interoperability) within the healthcare system. It forms the backbone of digital health transformation.



### Better Citizen and Staff Experience

This priority centers on enhancing the experiences of both citizens and healthcare staff when interacting with digital health solutions. It aims to improve user satisfaction, engagement, and efficiency in healthcare delivery.

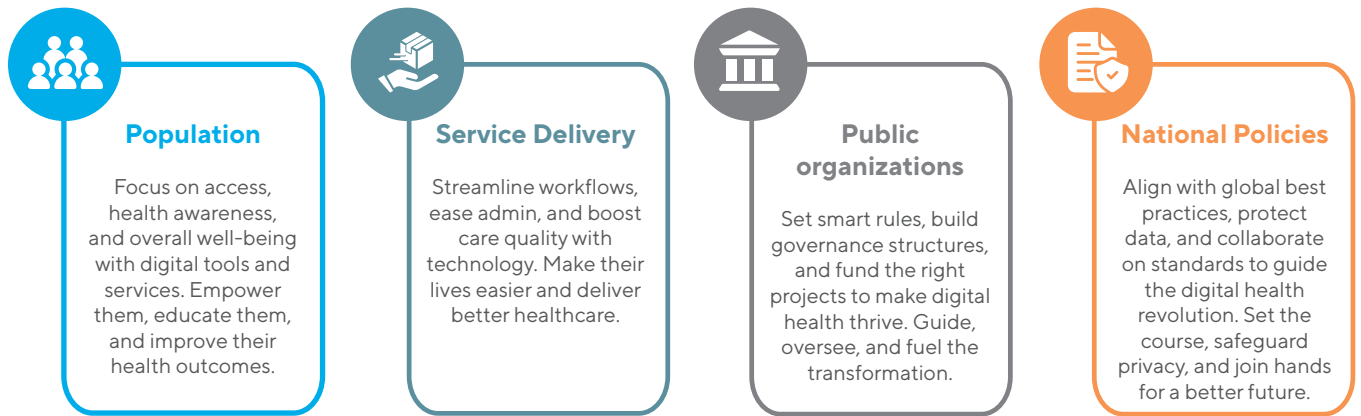


### Policy, Governance, and Financing

Policy and governance play a critical role in shaping the digital health landscape. This priority involves establishing clear policies, governance structures, and sustainable financing mechanisms to support digital health initiatives.

1
2
3

## Target Groups







To develop a comprehensive digital health strategy, it's important to consider how these strategic priorities intersect with each target group. For example, enhancing interoperability (Priority 1) can benefit both service delivery (e.g., healthcare providers accessing patient records) and the population (e.g., patients accessing their health data). Similarly, effective governance (Priority 3) impacts public organizations and national policies, shaping the overall digital health landscape.

This matrix provides a structured approach for Ministry of Health and other government authorities to identify specific initiatives and actions that align with their strategic priorities and target groups, ultimately leading to a more effective and equitable digital health strategy.

## Strategic Objectives

**Table 5:** Strategic Objectives in details

	A. Infrastructure, Solutions, and Interoperability	B. Better Citizen and Staff Experience	C. Policy, Governance, and Financing
<b>1</b>  <b>Population</b>	<b>A1-</b> Develop user-friendly digital health applications accessible to citizens. Ensure that these solutions are interoperable with healthcare providers' systems, allowing patients to easily share their health data and receive personalized health recommendations.	<b>B1-</b> Improve digital literacy among citizens by offering training programs and educational resources. Empower individuals to manage their health information effectively, fostering a sense of ownership and engagement in their healthcare journey.	<b>C1-</b> Establish robust policies and regulations that prioritize the privacy and security of citizens' health data. Ensure that citizens have confidence in the protection of their information, promoting trust in digital health systems.
<b>2</b>  <b>Service Delivery</b>	<b>A2-</b> Develop and implement interoperable Electronic Health Record (EHR) systems. These systems should allow healthcare providers to access patient records seamlessly, reducing duplication of tests and improving care coordination.	<b>B2-</b> Enhance the user-friendliness of digital health tools used by healthcare providers. Streamline clinical workflows and administrative tasks, allowing staff to focus more on patient care and less on paperwork.	<b>C2-</b> Allocate financial resources to healthcare organizations for the adoption of digital solutions. Ensure that policies and financing mechanisms are in place to support the integration of digital technologies into healthcare delivery.
<b>3</b>  <b>Public Organizations</b>	<b>A3-</b> Promote collaboration among public health agencies to share data effectively. This collaboration can lead to a more comprehensive view of public health trends and enable timely responses to health crises.	<b>B3-</b> Implement training programs for public healthcare workers to ensure they are proficient in using digital systems. This training can improve the efficiency and effectiveness of public health initiatives.	<b>C3-</b> Establish financing mechanisms to support the implementation of digital health policies within public health organizations. Adequate funding is essential for the successful execution of digital health strategies at the institutional level.
<b>4</b>  <b>National Policies</b>	<b>A4-</b> Set national standards for data exchange and interoperability. These standards ensure that data can flow seamlessly between different healthcare systems, promoting a unified approach to healthcare data management.	<b>B4-</b> Promote user-centric design principles in the development of digital health tools. Encourage the creation of user-friendly interfaces that enhance the experiences of both citizens and healthcare providers.	<b>C4-</b> Establish regulatory frameworks for the approval and monitoring of digital health solutions. These regulations should ensure the safety, quality, and effectiveness of digital healthcare offerings while maintaining patient privacy and data security.

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## CONCLUSION AND RECOMMENDATIONS



## Join the Digital Health Transition and Transformation in Egypt

Egypt stands at the cusp of a healthcare transformation. By embracing digital health, we can empower patients, improve care delivery, and build a healthier future for all. The time to act is now.

### The Future We Envision:

- **Universal access to quality healthcare:** Imagine a future where healthcare is no longer limited by distance or resources. Imagine telehealth connecting physicians to patients in remote villages, and mobile apps guiding individuals towards preventive care.
- **Empowered patients:** Imagine patients actively participating in their own health journeys, accessing their medical records, and making informed decisions. Imagine digital tools supporting chronic disease management and personalized wellness plans.
- **Improved care delivery:** Imagine a seamless flow of information between healthcare providers, ensuring accurate diagnoses, optimized treatment plans, and reduced duplication of services. Imagine data-driven insights informing healthcare policies and resource allocation.

### The Challenges to Overcome:

- **Infrastructure development:** Bridging the digital divide and expanding access to technology across the nation is crucial.
- **Data privacy and security:** Building trust through robust data governance and transparent practices is essential.
- **Financial sustainability:** Identifying innovative funding models and securing long-term investment is critical.
- **Capacity building:** Equipping healthcare providers with the necessary skills and digital literacy is key.

### The Call to Action:

#### We call upon all stakeholders in Egypt to join the digital health revolution:

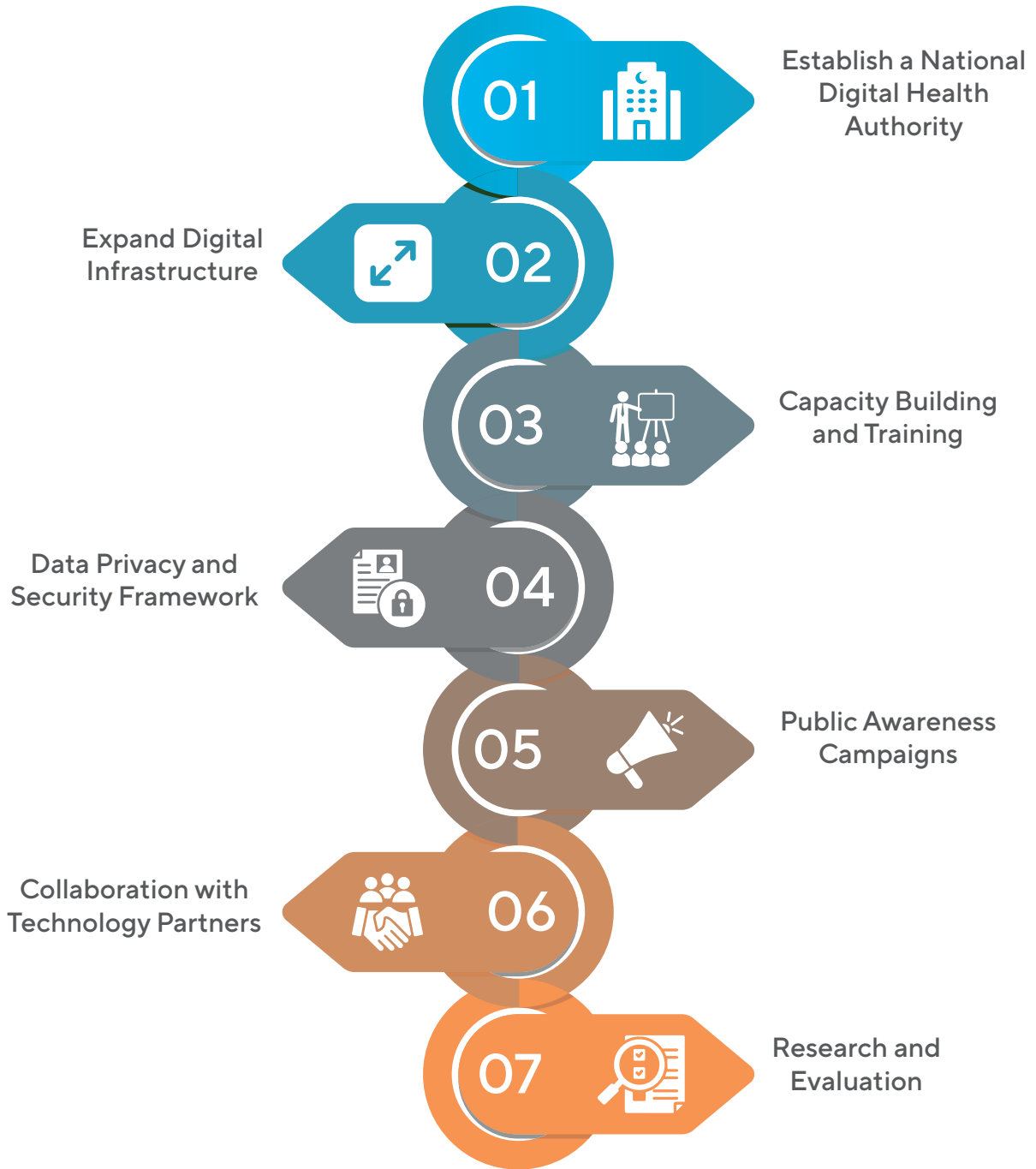
- **Government:** Lead the development of a comprehensive digital health strategy, invest in infrastructure, and champion data privacy regulations.
- **Healthcare providers:** Embrace digital tools, upskill on their use, and participate in knowledge sharing initiatives.
- **Technology companies:** Develop innovative and culturally relevant solutions, partner with healthcare institutions, and ensure affordability and accessibility.
- **Academia and research institutions:** Conduct research, evaluate evidence-based practices, and provide valuable insights for informed policymaking.
- **Civil society and patient organizations:** Advocate for patient-centered policies, raise awareness about digital health benefits, and empower communities to embrace technology.

Together, we can build a thriving digital health ecosystem in Egypt. By harnessing the power of technology, we can bridge healthcare gaps, improve outcomes, and empower individuals to lead healthier lives.

The time for action is now. Let's turn the vision into reality.



## Recommendations for Future Steps in the Digital Health Strategy for Egypt



These recommendations aim to guide the future development and implementation of the digital health strategy in Egypt, ensuring that it remains responsive to the evolving healthcare landscape and the needs of the population.

