Dissertation training

at

International Institute of Health Management Research, New Delhi

Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic and Jamaica) - Using Global Digital Health Monitor Indicator

by

Name- **Dr. Shradha Bihani**

Enroll No.- **PG/23/113**

Under the guidance of

Dr. Nishikant Bele

PGDM (Hospital & Health Management)

2023-25

International Institute of Health Management Research
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(Completion of Dissertation from respective organisation)

The certificate is awarded to

Dr. Shradha Bihani

in recognition of having successfully completed her

Dissertation and project titled

Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) - Using Global Digital Health Monitor Indicator

24th February 2025 - 26th June 2025

at

International Institute of Health Management Research, New Delhi

She comes across a committed, sincere & diligent person who has

a strong drive & zeal for learning.

We wish her all the best for future endeavours.

Mentor,

Dr. Nishikant Bele

Associate Professor & Controller of Examinations

IIHMR, New Delhi

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Shradha Bihani** student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone dissertation training at **International Institute of Health Management Research, New Delhi** from **24th February 2025** to **26th June 2025.**

The Candidate has successfully carried out the study designated to her during dissertation training and her approach to the study has been sincere, scientific and analytical.

The Dissertation is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

Dr. Sunesh Kumar
Associate Dean, Academic and Student Affairs
IIHMR, New Delhi

Mentor
Dr. Nishikant Bele
Associate Professor & Controller of Examinations
IIHMR, New Delhi

Certificate of Approval

The following dissertation titled **"Evaluating Digital Health Transformation in Pan American Region (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) - Using Global Digital Health Monitor Indicator"** at **"International Institute of Health Management Research, New Delhi"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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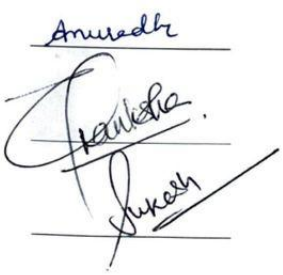
Mrs. Anuradha Bhardwaj	
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Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Shradha Bihani,** a graduate student of **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. She is submitting this dissertation titled **"Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) - Using Global Digital Health Monitor Indicator"** at "International Institute of Health Management Research, New Delhi" in partial fulfilment of the requirements for the award of the **PGDM (Hospital & Health Management).**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Mentor,

Dr. Nishikant Bele

Associate Professor & Controller of Examinations

IIHMR, New Delhi

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,

NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) - Using Global Digital Health Monitor Indicator** and submitted by **Dr. Shradha Bihani,** Enrollment No. **PG/23/113** under the supervision of Dr. Nishikant Bele for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **24th February 2025** to **26th June 2025**, embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Shradha Bihani

Dr. Shradha Bihani

FEEDBACK FORM

Name of the Student: Dr. Shradha Bihani

Name of the Organisation in which Dissertation has been completed: IIHMR, New Delhi

Area of Dissertation: Health-IT

Attendance: 100%

Objectives Achieved: yes

Deliverables: achieved

Strengths: positive attitude, quick learner, self discipline

Suggestions for Improvement: to learn more data analytics tools

Suggestions for Institute (course curriculum, industry interaction, placement, alumini):

Satisfactory

Organisation Mentor (Dissertation)

Date: 3/07/25

Place: new delhi

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Name of Guide/Supervisor	Dr. Nishikant Bele		
Title of the Dissertation	Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) - Using Global Digital Health Monitor Indicator		
Plagiarism detect software used	**"TURNITIN"**		
Similar contents acceptable (%)	Up to **15** Percent as per policy		
Total words and % of similar contents Identified	5741 and 12%		
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Abstract

The digitalization of healthcare is an urgent priority for health systems across the globe, especially in the aftermath of COVID-19, which hastened the need for digitally facilitated service delivery. This dissertation assesses the digital health maturity of seven Pan American countries—Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica—based on the World Health Organization (WHO) and International Telecommunication Union (ITU) Global Digital Health Monitor Indicator (GDHMI) framework. The goal of the research is to systematically examine the digital health ecosystem of each country, determine critical gaps, and make recommendations for building digital health capacity.

A descriptive and comparative research design was adopted, leveraging secondary data from national digital health strategies, global databases, and official government reports. Countries were evaluated against 23 key indicators grouped into seven thematic areas: Leadership and Governance; Strategy and Investment; Legislation, Policy and Compliance; Workforce; Standards and Interoperability; Infrastructure; and Services and Applications. Each indicator was rated on a five-point scale, providing a comprehensive view of national digital health readiness.

Observations indicate that Brazil, Chile, and Colombia are relatively more developed, with 4 scores on the maturity scale, which indicate well-established institutions, legal systems, and electronic health services. Argentina, Costa Rica, the Dominican Republic, and Jamaica are in the moderate maturity level, with an average score of 3, where the building blocks are in place but not yet fully extended or scalable.

One major finding in all countries is the scarcity of organized digital health workforce development. Even among more highly scoring countries, there is not enough training in

digital skills and established career paths. Interoperability is still a major challenge due to system fragmentation and limited standardization.

The research emphasizes that most nations have come up with digital health plans, but there is still a patchy implementation. Most initiatives are still in pilots without national scale-up, largely because of the lack of sufficient funding, poor infrastructure, or poor governance. Jamaica and the Dominican Republic, for example, illustrate nascent adoption with encouraging initiatives lacking long-term investment and scalability strategies. Recommendations are the integration of digital health education into professional and academic training, creation of national health information exchange (HIE) frameworks, increased investment in digital infrastructure, and encouragement of interoperable systems through use of global standards.

Finally, the research emphasizes the need for countries to go beyond planning and invest in operational implementation to construct resilient, inclusive, and sustainable digital health systems. The GDHMI framework was effective in the identification of gaps, benchmarking progress, and informing country-led pathways forward. A coordinated, strategic effort—based on workforce development, interoperability, infrastructure, and governance—is critical to unlocking digital health's full potential in the Pan American region (Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, and Jamaica).

Acknowledgement

I would like to take this opportunity to express my deepest gratitude and appreciation to all those who have supported and guided me throughout my dissertation project.

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I am deeply thankful to **International Institute of Health Management Research, Delhi** for providing me with a platform to pursue this academic endeavor. The institution's academic environment and focus on healthcare management have played a crucial role in shaping my understanding of the subject.

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This dissertation would not have been possible without the collective contributions of everyone mentioned above.

Sincerely,

Dr. Shradha Bihani

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Acronyms/ Abbreviations

AI	Artificial Intelligence
EHR	Electronic Health Record
GDHI	Global Digital Health Index
GDHMI	Global Digital Health Monitor Indicators
GIS	Geographic Information System
HIE	Health Information Exchange
ICT	Information Communication Technology
IDB	Inter-American Development Bank
ITU	International Telecommunication Union
PAHO	Pan American Health Organisation
UHC	Universal Health Coverage
WHO	World Health Organisation

Dissertation Report- Evaluating Digital Health Transformation in Pan American Region Countries (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic and Jamaica) - Using Global Digital Health Monitor Indicator

Section 1 – Introduction

1.1 Background and Context

Like many other sectors, healthcare is constantly evolving. As people live longer, more health professionals at all levels are needed to care for them, and fragmented services are reaching their capacity. These contemporary issues necessitate a fresh approach. The World Health Organization (WHO) stated in 2015 that integrated care is the answer. Technology integration in healthcare is crucial to advancing an integrated care approach. (1)

The global healthcare landscape has been undergoing a significant transformation fueled by the rise of digital technologies. Digital health is the methodical use of data, computer science, and information and communications technology to help people, healthcare professionals, and health systems make well-informed decisions that will increase health and wellness and disease resilience.(2) It encompasses the use of information and communication technology (ICT) to support health and healthcare delivery, including tools such as electronic health records (EHRs), telemedicine, mobile health (mHealth), artificial intelligence (AI), wearable technologies, and big data analytics.(3) These innovations are reshaping how healthcare is delivered, improving efficiency, equity, quality, and accessibility.

The term "digital transformation" describes how information and communication technologies impact and alter the health sector's procedures, guidelines for participation, and methods of operation and interaction. It also includes recognizing the significance of elements like digital literacy, culture, and the mentality of the health workforce and the

community they serve. Through digital transformation, the region's health care systems can best utilize digital connectivity and essential digital public infrastructure, including digital financial transactions, verifiable identity, and standards-based data sharing across systems, while also addressing fundamental flaws or limitations resulting from systems built in an analog, paper-driven reality.(4)

Digital transformation is an ongoing process which describes how advancements in digital technology are applied to the healthcare sector and society at large.(5) Digital transformation strategy fosters cooperation between healthcare stakeholders while also greatly improving patient outcomes, streamlining administrative processes, and delivering healthcare services. (6)

Early in 2020, COVID-19 emerged, which sped up the digital transformation of numerous industries and increased customer demands for digital solutions to fulfil daily requirements. Social alienation and increased health outcomes concerns sparked a rush for technologically enabled health solutions and necessitated a redesign of care delivery. (7) According to the Pan American Health Organization (PAHO), digital health tools changed how governments and institutions see the provision of health services throughout the crisis and became essential for ensuring that everyone had access to healthcare.(8)

As nations seek to update their healthcare systems and address the evolving needs of their citizens, the digital health revolution is accelerating across the Pan American region. Given the region's numerous health issues, such as aging populations, the combined burden of infectious and non-communicable illnesses, and inequalities in access to healthcare, digital

health offers a calculated way to enhance results and maximize use of available resources. (9)

The adoption of digital health is a critical factor in a country's transition from developing to developed status. To become a more advanced healthcare industry, these countries must adopt the eHealth approach and execute digital transformation.

1.2 Digital Health Ecosystem

A digital health ecosystem is a dynamic network that connects diverse data sources, applications, devices, and technologies, enabling seamless interoperability and cross-care collaboration among various stakeholders. This system transforms traditional healthcare delivery by shifting from an organization-centered model to a patient-centered approach, aiming to securely provide the right information to the right person at the right time. By integrating workflows, tools, and data across the continuum of care, the ecosystem enhances clinical decision-making, improves patient outcomes, and boosts population health. It also promotes cost efficiencies and more effective service delivery by uniting key participants—healthcare providers, patients, insurers, pharmaceutical companies, and regulatory bodies—whose interactions collectively shape the effectiveness and responsiveness of the healthcare system.(10–12)

There are 7 core components of digital health ecosystem grouped into ICT environment and enabling environment (13) as follows:

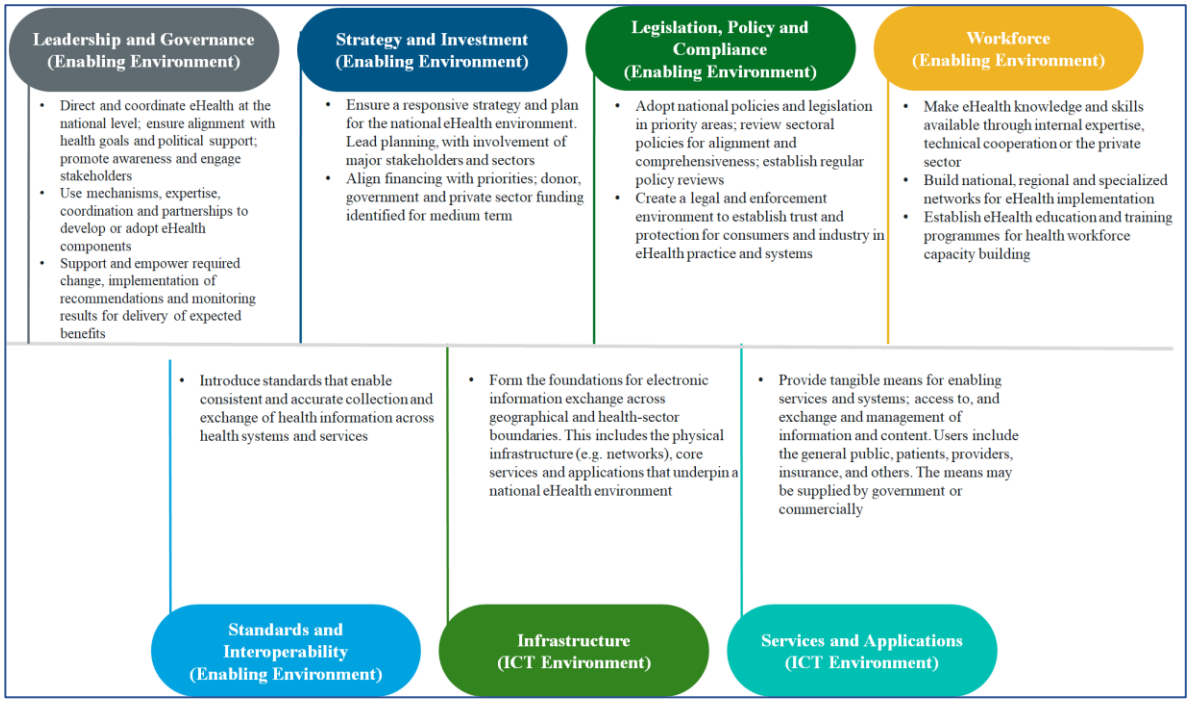


Figure 1 Core components of digital health

1.3 Rationale

Despite the recognized importance of digital health, the above-mentioned Pan American region countries present a diverse landscape in terms of digital health maturity, with countries at different stages of adoption and implementation. Some countries have made significant strides in leveraging digital health technologies, like Brazil (adopting telemedicine and developing e-SUS software) (14), Argentina (EHR implementation) (15), and Chile (Digital Hospital initiative) (16).

Despite these developments, problems still exist. Digital divide remains a significant barrier, with disparities infrastructure, and digital literacy, fragmented health system, and interoperability (Columbia) (17) and policy gaps (Jamaica) (18) affecting the equitable implementation of digital health solutions.

The WHO, in partnership with the International Telecommunication Union (ITU), created the Global Digital Health Monitor Indicator (GDHMI) to systematically evaluate and compare national progress in digital health. This framework offers standardized metrics to assess a nation's level of digital health maturity in several areas, such as workforce, standards and interoperability, infrastructure development, strategy and investment, leadership and governance, legislation, policy and compliance, and services and applications.

This research seeks to assess and compare the progress of digital health transformation across selected Pan American countries—namely Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica—by utilizing the WHO-ITU National eHealth Strategy Toolkit alongside the GDHI framework. Maturity models have proven helpful in assessing the "as is" state of a nation's or organization's health data system and in identifying the specific characteristics required to enhance that system's digital health capabilities in a thriving digital health ecosystem.(19) Assessing the digital health maturity of these countries is crucial to identifying gaps, understanding challenges, and uncovering opportunities for improvement.

Even though digital health maturity assessments are being carried out across different parts of the world, comparatively little research has been done on Pan American nations employing standardized, globally accepted evaluation tools like the GDHMI. To make this possible, the research uses a descriptive approach by utilizing secondary data obtained from global health databases, national governments and other publicly available related reports, which will then be mapped against WHO-ITU frameworks to measure digital health maturity for the chosen countries.

1.4 Aim

The study aims to explore the extent and variation of digital health advancement among selected Pan American region countries by systematically mapping their development against globally recognized assessment tools. The research seeks to shed light on existing shortcomings, evaluating obstacles, and identifying avenues for future enhancement.

1.5 Objectives

Primary Objective- Systematically assessing the level of digital health readiness and implementation across selected Pan American countries (Argentine, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) using the WHO-ITU frameworks.

Secondary Objectives-

- To examine the country-wise obstacles/challenges that hinder countries from scaling digital health solutions effectively.
- Identify country-wise actionable opportunities and strategic entry points for improving digital health systems in the selected countries.

Section 2 – Review of Literature

Some regional and international organizations, including the WHO, the Inter-American Development Bank (IDB), and the PAHO, have aided in the facilitation of the acceleration of digital health across the Pan American region. Several studies and initiatives have attempted to understand the level and scope of digital health implementation across these countries, but to date, there are still no established, consistent measures of digital health maturity.

IDB's Golden Opportunity of Latin America and the Caribbean emphasizes the revolutionary potential of technologies such as telemedicine and electronic health records in transforming the delivery of healthcare. It supports the application of standardized assessment instruments and calls for extensive collaboration across public and private sectors to track national progress and enhance cross-border collaboration in digital health.(20)

The **Roadmap for Digital Transformation of the Health Sector in the Region of the Americas** provides a vision for digital health that respects equity, inclusiveness, and sustainability. It emphasizes strong governance, clear policy frameworks, and the incorporation of interoperable digital systems to enable universal access to healthcare.(21)

PAHO's Digital Transformation Toolkit provides practical implementation concepts for digital health implementation, highlighting critical areas in the form of workforce development, system interoperability, good governance, solid infrastructure, and equity. It aligns with the WHO and ITU framework helping countries assess their trajectory and develop inclusive and sustainable health systems.(22)

Digital Transformation of the Health Sector in Latin America and the Caribbean explores how different countries responded to the increased demand for digital health solutions during the COVID-19 pandemic. It reveals varying levels of digital readiness—while some nations advanced rapidly, others faced challenges such as inadequate infrastructure and limited digital skills among healthcare workers. The findings stress the importance of adopting a regional strategy to monitor digital health investments and ensure that technological resources are distributed fairly across all areas.(23)

Although these studies provide good insights on the digital health profile of Latin America and the Caribbean, there is no tangible evidence of the use of standardized tools to measure digital health maturity among countries. The WHO and ITU's GDHMI offers a potential solution to this gap. However, its use in the Pan American region is limited. This dissertation aims to close that gap by assessing the digital health preparedness of selected nations using the GDHMI framework and providing a comparative approach to aid future policymaking and investment planning.

Section 3 – Methodology

3.1 Research Questions

- What level of digital health maturity does the chosen Pan American region countries currently possess?
- How do countries perform across the seven thematic areas defined in the Digital Health Maturity Index (DHMI)?
- What gaps exist between these nations' levels of digital health maturity, as determined by the assessment, and what strategic opportunities exist to support future expansion, innovation, and sustainable development in the field of digital health?

3.2 Research Design

The descriptive and comparative research design used in this study is suitable for evaluating the current state of digital health ecosystems in a chosen countries. The descriptive part is concerned with systematically recording and summarizing the status of digital health maturity within a standardized framework- Global Digital Health Index (GDHI). The comparative feature makes it possible to evaluate and compare different countries based on their results for digital health maturity.

In order to create the GDHI, HealthEnabled and the Global Development Incubator (GDI) collaborated with Dalberg's Design Impact Group (DIG), ThoughtWorks, and representatives from more than 20 nations as well as more than 50 international agencies and organizations at the beginning of 2016.

To align the indicators with the WHO Global Digital Health Strategy as a supplement to the WHO Digital Health Atlas, the tool undertook a year-long indicator and platform review and

redesign process in 2022. This effort included a greater focus on AI, equity, gender, and Universal Health Coverage (UHC) (24)

3.3 Data Collection and Country Selection

The information gathered in this study was obtained from publicly accessible resources, such as official national digital health strategies, WHO and PAHO databases, government websites, and other global repositories pertinent to the topic.

Firstly, all member states of PAHO, 35 in number, were contemplated for analysis. But after careful examination, it was found that just 7 countries have sufficient publicly available data with most of the 23 markers.

In order to preserve the credibility and coherence of the analysis, those nations with extremely incomplete data were omitted. The rationale was that if a nation had information for only a few indicators (for example, 10 out of 23), a high rating in a few of those would unrealistically indicate high digital maturity, even though information for most of the most important indicators were missing. Such an outcome may, in turn, bring bias to the findings of the study. Hence, only nations that had fairly complete and representative data been chosen for final consideration in the study.

3.4 Assessment Framework

The **Digital Health Maturity Scoring Tool** is a structured assessment framework designed to evaluate the development and effectiveness of digital health systems within a healthcare environment. This tool is based on the **WHO/ITU eHealth Strategy Toolkit**, which categorizes digital health readiness into seven thematic areas (24)

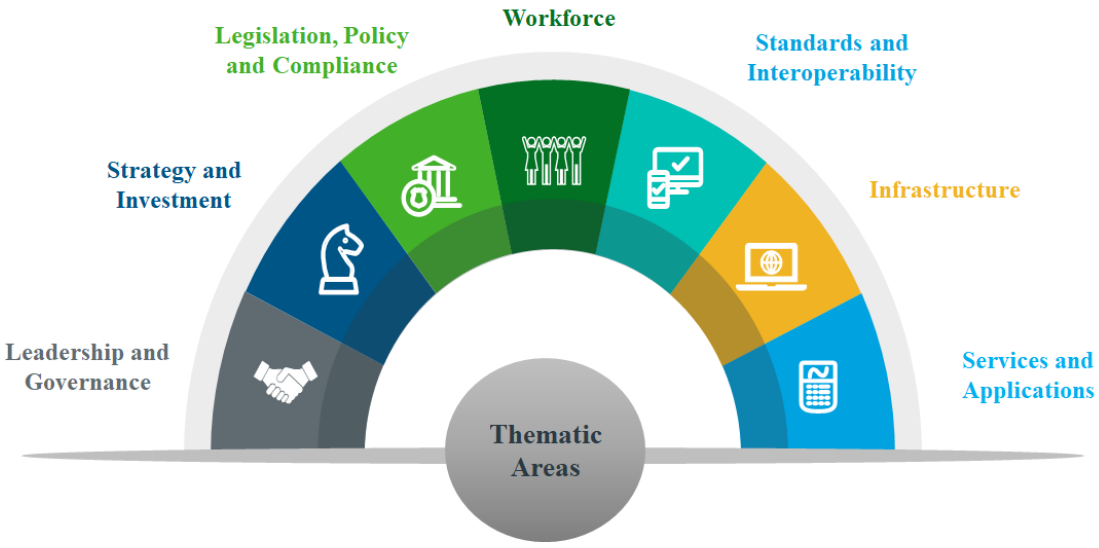


Figure 2 : 7 Thematic Areas

Each of these seven areas is further broken down:

Leadership and Governance

- National governance bodies established to prioritize digital health
- Digital health integrated into national strategic planning
- Systems in place for adopting and governing emerging technologies
- National digital health plans include equity, diversity, and human rights considerations

Strategy and Investment

- Existence of a national eHealth/digital health strategy or framework
- Public funding allocated for digital health initiatives

Legislation, Policy, and Compliance

- Legal framework established for data protection and cybersecurity
- Privacy laws governing consent, confidentiality, and access to health data
- Regulations ensuring confidentiality and patient data privacy
- Policies in place for secure cross-border health data sharing

Workforce

- Digital health included in pre-service training of health professional.
- Digital health integrated into in-service training programs
- Training programs developed for the digital health workforce
- Established career pathways for public sector digital health professionals

Standards and Interoperability

- Established national digital health architecture and/or health information exchange (HIE)
- Adoption of standardized health information protocols

Infrastructure

- Network infrastructure readiness for digital health
- Plans and support in place for maintaining digital health infrastructure

Services and Applications

- Digitally scaled health systems implemented at the national level
- Digital identities and GIS mapping established for providers, administrators, and facilities
- Digital identity systems in place for individuals
- Secure systems available for patient feedback
- Digital health supports population health management efforts

The above mentioned are the **23 key indicators**, providing a detailed assessment of a country's digital health ecosystem. Some of these key indicators have sub-indicators which

are included to add greater specificity to the GDHMI, they are not used in calculating the component phase or the country phase. A five-point rating system is used for these indicators:

Scoring scale across 23 key indicators

- **1: Non-existent**
- **2: First initial steps taken**
- **3: Existing but not in working order**
- **4: Existing in working order but not implemented at organizational level, or scaled at developmental level**
- **5: Fully developed, implemented, and is scalable**

The ratings across these 23 key indicators are used to calculate the overall country average. This Country average is used to access a Scale from 1-5, which is called the Digital Health Maturity Scale and the whole index is used in the process is called the Digital Health Maturity Index (25)

Digital Health Maturity Scoring Scale

- **1: Very beginning stage**
- **2: Early stage, with foundational elements in development**
- **3: Moderate level of progress**
- **4: Advanced stage with most enablers in place**
- **5: Highest maturity level**

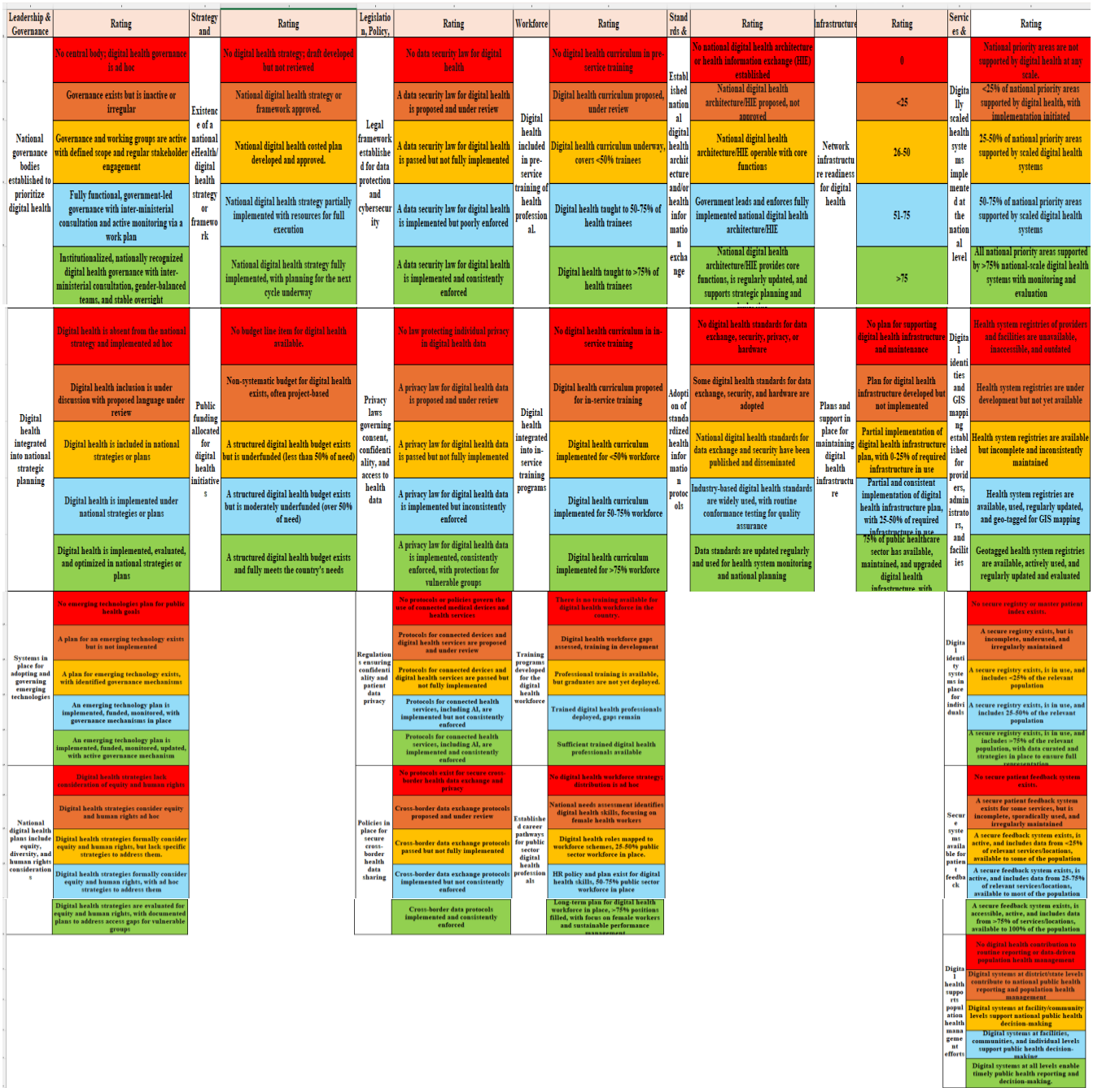


Figure 3 : Ratings across 23 key indicators based on the answer to each question

Section 4 - Results

4.1 Analysis

Argentina

Socio Demographic Data

Total Area - 2,780,400 sq. km

Total Population - 45,828,428

Urban Population – 44,010,474

Literacy Rate, adult total (% of people ages 15 and above) - 99.51%

Age Dependency Ratio (% of working age group) – 52.40%

Total Unemployment (% of total labor force) - 7.9%

Health Finance Data

GDP - 646,075.28 million USD

GDP Growth (annual %) - -1.6%

Current health expenditure (% of GDP) - 9.86%

Domestic private sector health expenditure per capita (current US $) - 553.54 USD

Domestic general Government health expenditure per capita (current US $) - 800.17 USD

External health expenditure per capita (current US$) - 17.17 USD

Out of pocket expenditure per capita (current US $) - 361.93 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 62.7 million

Individuals using Internet (% of population) - 89%

Universal Health Coverage

UHC Service Coverage Index - 79

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	4	Existence of a national eHealth/digital health strategy or framework	4	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	NA	Established national digital health architecture and/or health information exchange	3	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	3
Digital Health prioritized at the national level through planning	5	Public funding allocated for digital health initiatives	4	Privacy laws governing consent, confidentiality, and access to health data	4	Digital health integrated into in-service training programs	3	Adoption of standardized health information protocols	3	Plans and support in place for maintaining digital health infrastructure	3	Digital identities and GIS mapping established for providers, administrators, and facilities	4
Systems in place for adopting and governing emerging technologies	2		Score=4	Regulations ensuring confidentiality and patient data privacy	4	Training programs developed for the digital health workforce	4		Score=3		Score=3	Digital identity systems in place for individuals	4
National digital health plans include equity, diversity, and human rights considerations	4			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	3					Secure systems available for patient feedback	2
	Score=4				Score=4		Score=3					Digital health supports population health management efforts	3

Figure 4 : Argentina's Score against 23 Key Indicators

(26–31)

Brazil

Socio Demographic Data

Total Area - 8,515,770 sq. km

Total Population - 212,692,043

Urban Population – 194,451,506

Literacy Rate, adult total (% of people ages 15 and above) – 95%

Age Dependency Ratio (% of working age group) – 44.02%

Total Unemployment (% of total labor force) - 7.6%

Health Finance Data

GDP - 2,173,665.66 million USD

GDP Growth (annual %) - 2.9%

Current health expenditure (% of GDP) - 9.14%

Domestic private sector health expenditure per capita (current US $) - 466.88 USD

Domestic general Government health expenditure per capita (current US $) - 380.99 USD

External health expenditure per capita (current US$) - 0.70 USD

Out of pocket expenditure per capita (current US $) - 232.24 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 213 million

Individuals using Internet (% of population) - 84%

Universal Health Coverage

UHC Service Coverage Index - 80

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	4	Existence of a national eHealth/digital health strategy or framework	4	Legal framework established for data protection and cybersecurity	5	Digital health included in pre-service training of health professional	3	Established national digital health architecture and/or health information exchange	3	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	4
Digital Health prioritized at the national level through planning	5	Public funding allocated for digital health initiatives	4	Privacy laws governing consent, confidentiality, and access to health data	5	Digital health integrated into in-service training programs	3	Adoption of standardized health information protocols	4	Plans and support in place for maintaining digital health infrastructure	4	Digital identities and GIS mapping established for providers, administrators, and facilities	4
Systems in place for adopting and governing emerging technologies	4		Score=4	Regulations ensuring confidentiality and patient data privacy	4	Training programs developed for the digital health workforce	3		Score=4		Score=4	Digital identity systems in place for individuals	5
National digital health plans include equity, diversity, and human rights considerations	5			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	1					Secure systems available for patient feedback	5
	Score= 5				Score= 5		Score= 3					Digital health supports population health management efforts	4
													Score=4

Figure 5 : Brazil's Score against 23 Key Indicators

(27–29,32–36)

Chile

Socio Demographic Data

Total Area - 756,102 sq. km

Total Population – 19,845,842

Urban Population – 16,850,412

Literacy Rate, adult total (% of people ages 15 and above) – 97%

Age Dependency Ratio (% of working age group) – 45.05%

Total Unemployment (% of total labor force) - 9.1%

Health Finance Data

GDP - 335,533.33 million USD

GDP Growth (annual %) - 0.2%

Current health expenditure (% of GDP) - 10.10%

Domestic private sector health expenditure per capita (current US $) - 303.12 USD

Domestic general Government health expenditure per capita (current US $) - 862.20 USD

External health expenditure per capita (current US$) - 0.00 USD

Out of pocket expenditure per capita (current US $) - 600.86 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 26.7 million

Individuals using Internet (% of population) - 95%

Universal Health Coverage

UHC Service Coverage Index - 82

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	5	Existence of a national eHealth/digital health strategy or framework	3	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	3	Established national digital health architecture and/or health information exchange	3	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	4
Digital Health prioritized at the national level through planning	3	Public funding allocated for digital health initiatives	3	Privacy laws governing consent, confidentiality, and access to health data	4	Digital health integrated into in-service training programs	3	Adoption of standardized health information protocols	3	Plans and support in place for maintaining digital health infrastructure	4	Digital identities and GIS mapping established for providers, administrators, and facilities	4
Systems in place for adopting and governing emerging technologies	3		Score=3	Regulations ensuring confidentiality and patient data privacy	4	Training programs developed for the digital health workforce	4		Score=3		Score=4	Digital identity systems in place for individuals	5
National digital health plans include equity, diversity, and human rights considerations	4			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	2					Secure systems available for patient feedback	4
	Score= 4				Score= 4		Score= 3					Digital health supports population health management efforts	3

Figure 6 : Chile's Score against 23 Key Indicators

(27–29,37–40)

Colombia

Socio Demographic Data

Total Area - 1,138,910 sq. km

Total Population - 53,425,635

Urban Population - 43,101,759

Literacy Rate, adult total (% of people ages 15 and above) - 99.12%

Age Dependency Ratio (% of working age group) - 42.80%

Total Unemployment (% of total labor force) - 9.6%

Health Finance Data

GDP - 363,493.84 million USD

GDP Growth (annual %) - 0.6%

Current health expenditure (% of GDP) - 7.69%

Domestic private sector health expenditure per capita (current US $) - 159.07 USD

Domestic general Government health expenditure per capita (current US $) - 375.36 USD

External health expenditure per capita (current US$) - No recent data available

Out of pocket expenditure per capita (current US $) - 78.11 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 87.4 million

Individuals using Internet (% of population) - 77%

Universal Health Coverage

UHC Service Coverage Index - 80

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	4	Existence of a national eHealth/digital health strategy or framework	4	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	4	Established national digital health architecture and/or health information exchange	3	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	3
Digital Health prioritized at the national level through planning	4	Public funding allocated for digital health initiatives	4	Privacy laws governing consent, confidentiality, and access to health data	4	Digital health integrated into in-service training programs	2	Adoption of standardized health information protocols	2	Plans and support in place for maintaining digital health infrastructure	4	Digital identities and GIS mapping established for providers, administrators, and facilities	5
Systems in place for adopting and governing emerging technologies	3		Score=4	Regulations ensuring confidentiality and patient data privacy	4	Training programs developed for the digital health workforce	4		Score=3		Score=4	Digital identity systems in place for individuals	5
National digital health plans include equity, diversity, and human rights considerations	3			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	2					Secure systems available for patient feedback	2
	Score= 4				Score= 4		Score= 3					Digital health supports population health management efforts	4

Figure 7 : Colombia's Score against 23 Key Indicators

(27–29,41–45)

Costa Rica

Socio Demographic Data

Total Area - 51,060 sq. km

Total Population - 5,152,950

Urban Population – 4,390,911

Literacy Rate, adult total (% of people ages 15 and above) – 98%

Age Dependency Ratio (% of working age group) – 45.01%

Total Unemployment (% of total labor force) - 7.8%

Health Finance Data

GDP - 86,497.94 million USD

GDP Growth (annual %) - 5.1%

Current health expenditure (% of GDP) - 7.18%

Domestic private sector health expenditure per capita (current US $) - 303.57 USD

Domestic general Government health expenditure per capita (current US $) - 674.98 USD

External health expenditure per capita (current US$) - 0.29 USD

Out of pocket expenditure per capita (current US $) - 219.60 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 7.44 million

Individuals using Internet (% of population) - 85%

Universal Health Coverage

UHC Service Coverage Index - 81

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	4	Existence of a national eHealth/digital health strategy or framework	2	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	3	Established national digital health architecture and/or health information exchange	2	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	4
Digital Health prioritized at the national level through planning	5	Public funding allocated for digital health initiatives	4	Privacy laws governing consent, confidentiality, and access to health data	5	Digital health integrated into in-service training programs	2	Adoption of standardized health information protocols	2	Plans and support in place for maintaining digital health infrastructure	3	Digital identities and GIS mapping established for providers, administrators, and facilities	3
Systems in place for adopting and governing emerging technologies	4		Score=3	Regulations ensuring confidentiality and patient data privacy	3	Training programs developed for the digital health workforce	3		Score=2		Score=3	Digital identity systems in place for individuals	4
National digital health plans include equity, diversity, and human rights considerations	4			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	1					Secure systems available for patient feedback	4
	Score= 4				Score= 4		Score= 2					Digital health supports population health management efforts	3

Figure 8 : Costa Rica's Score against 23 Key Indicators

(27–29,46–51)

The Dominican Republic

Socio Demographic Data

Total Area - 48,320 sq. km

Total Population- 11,520,487

Urban Population – 9,950,299

Literacy Rate, adult total (% of people ages 15 and above) – 96%

Age Dependency Ratio (% of working age group) – 52.64%

Total Unemployment (% of total labor force) - 5.5%

Health Finance Data

GDP - 121,444.28 million USD

GDP Growth (annual %) - 2.4%

Current health expenditure (% of GDP) - 4.57%

Domestic private health expenditure per capita (current US $) - 167.55 USD

Domestic general Government health expenditure per capita (current US $) - 270.07 USD

External health expenditure per capita (current US$) - 24.65 USD

Out of pocket expenditure per capita (current US $) - 127.46 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 10.4 million

Individuals using Internet (% of population) - 85%

Universal Health Coverage

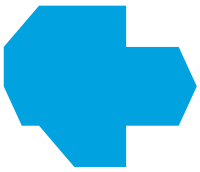
UHC Service Coverage Index - 77

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	3	Existence of a national eHealth/digital health strategy or framework	2	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	1	Established national digital health architecture and/or health information exchange	2	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	3
Digital Health prioritized at the national level through planning	4	Public funding allocated for digital health initiatives	1	Privacy laws governing consent, confidentiality, and access to health data	4	Digital health integrated into in-service training programs	3	Adoption of standardized health information protocols	2	Plans and support in place for maintaining digital health infrastructure	2	Digital identities and GIS mapping established for providers, administrators, and facilities	2
Systems in place for adopting and governing emerging technologies	2		Score=2	Regulations ensuring confidentiality and patient data privacy	3	Training programs developed for the digital health workforce	4		Score=2		Score=3	Digital identity systems in place for individuals	2
National digital health plans include equity, diversity, and human rights considerations	2			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	1					Secure systems available for patient feedback	2
	Score= 3				Score= 4		Score= 2					Digital health supports population health management efforts	3

Figure 9 : The Dominican Republic's Score against 23 Key Indicators

(27–29,52–57)

Jamaica



Socio Demographic Data

Total Area - 10,830 sq. km

Total Population - 2,837,077

Urban Population – 1,706,544

Literacy Rate, adult total (% of people ages 15 and above) – 88%

Age Dependency Ratio (% of working age group) - 36.98%

Total Unemployment (% of total labor force) - 4.9%

Health Finance Data

GDP - 19,423.36 million USD

GDP Growth (annual %) - 2.2%

Current health expenditure (% of GDP) - 7.78%

Domestic private sector health expenditure per capita (current US $) - 105.41 USD

Domestic general Government health expenditure per capita (current US $) - 356.97 USD

External health expenditure per capita (current US$) - 5.96 USD

Out of pocket expenditure per capita (current US $) - 51.94 USD

Information, Communication, and Technology Data

Mobile Cellular Subscription - 3.27 million

Individuals using Internet (% of population) - 83%

Universal Health Coverage

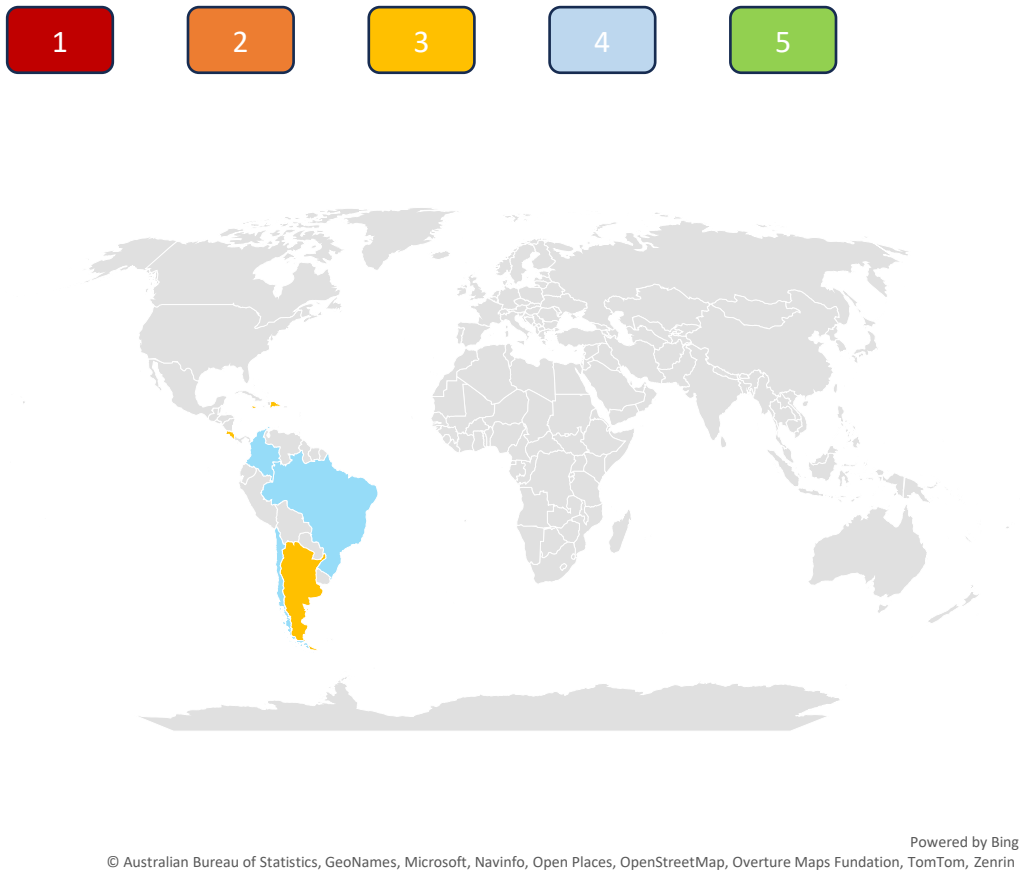
UHC Service Coverage Index - 74

Leadership & Governance	Rating	Strategy and Investment	Rating	Legislation, Policy, & Compliance	Rating	Workforce	Rating	Standrds & Interoperability	Rating	Infrastructure	Rating	Services & Applications	Rating
National governance bodies established to prioritize digital health	3	Existence of a national eHealth/digital health strategy or framework	3	Legal framework established for data protection and cybersecurity	4	Digital health included in pre-service training of health professional	1	Established national digital health architecture and/or health information exchange	2	Network infrastructure readiness for digital health	3	Digitally scaled health systems implemented at the national level	3
Digital Health prioritized at the national level through planning	5	Public funding allocated for digital health initiatives	3	Privacy laws governing consent, confidentiality, and access to health data	3	Digital health integrated into in-service training programs	3	Adoption of standardized health information protocols	2	Plans and support in place for maintaining digital health infrastructure	3	Digital identities and GIS mapping established for providers, administrators, and facilities	4
Systems in place for adopting and governing emerging technologies	2		Score=3	Regulations ensuring confidentiality and patient data privacy	3	Training programs developed for the digital health workforce	4		Score=2		Score=3	Digital identity systems in place for individuals	4
National digital health plans include equity, diversity, and human rights considerations	3			Policies in place for secure cross-border health data sharing	4	Established career pathways for public sector digital health professionals	4					Secure systems available for patient feedback	2
	Score= 3				Score= 4		Score= 3					Digital health supports population health management efforts	3

Figure 10 : Jamaica's Score against 23 Key Indicators

(27–29,58–68)

4.2 Findings



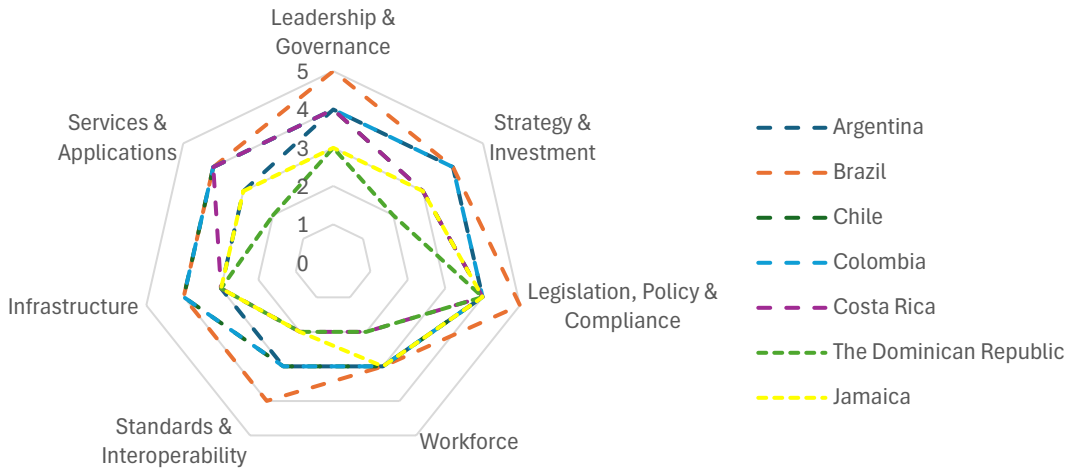


Figure 11 : Comparison of Countries' Scores across 7 Key Thematic Areas

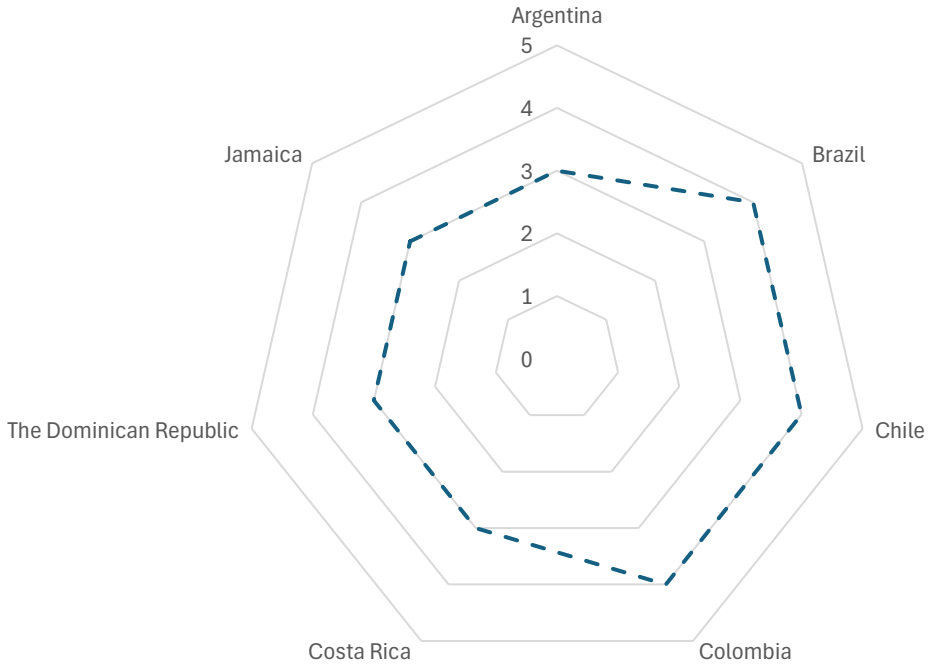


Figure 12 : Overall Digital Health Maturity Score of Countries

Resulting Scores:

Argentina- 3

- Leadership and Governance - 4
- Strategy and Investment - 4
- Legislation, Policy and Compliance - 4
- Workforce - 3
- Standards and Interoperability - 3
- Infrastructure - 3
- Services and Applications - 3

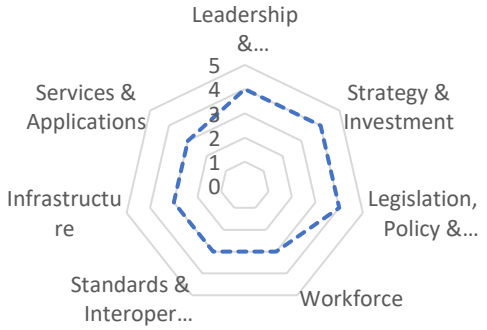


Figure 13 : Argentina's Digital Readiness Profile

Brazil - 4

- Leadership and Governance - 5
- Strategy and Investment - 4
- Legislation, Policy and Compliance - 5
- Workforce - 3
- Standards and Interoperability - 4
- Infrastructure - 4
- Services and Applications - 4

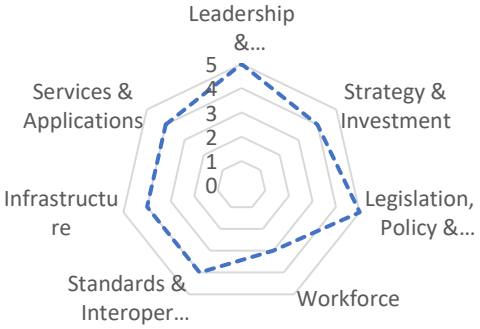


Figure 14 : Brazil's Digital Readiness Profile

Chile - 4

- Leadership and Governance - 4
- Strategy and Investment - 3
- Legislation, Policy and Compliance - 4

- Workforce - 3
- Standards and Interoperability - 3
- Infrastructure - 4
- Services and Applications - 4

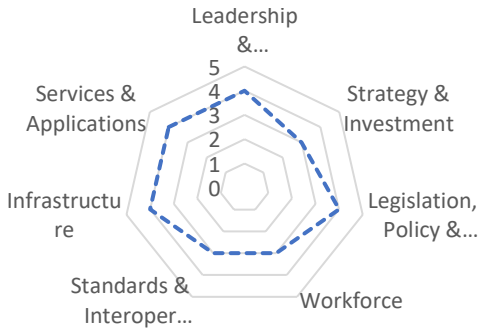


Figure 15 : Chile's Digital Readiness Profile

Colombia - 4

- Leadership and Governance - 4
- Strategy and Investment - 4
- Legislation, Policy and Compliance - 4
- Workforce - 3
- Standards and Interoperability - 3
- Infrastructure - 4
- Services and Applications - 4

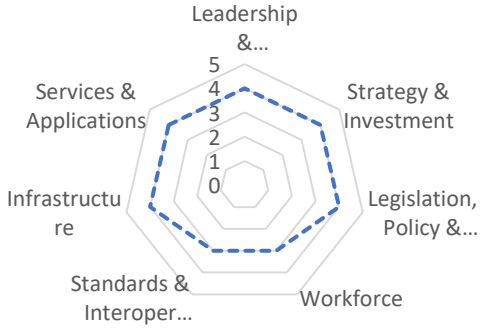


Figure 16 : Colombia's Digital Readiness Profile

Costa Rica - 3

- Leadership and Governance - 4
- Strategy and Investment - 3
- Legislation, Policy and Compliance - 4
- Workforce - 2
- Standards and Interoperability - 2
- Infrastructure - 3
- Services and Applications - 4

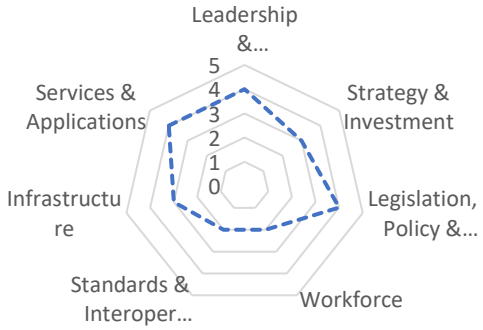


Figure 17 : Costa Rica's Digital Readiness Profile

The Dominican Republic - 3

- Leadership and Governance - 3
- Strategy and Investment - 2
- Legislation, Policy and Compliance - 4
- Workforce - 2
- Standards and Interoperability - 2
- Infrastructure - 3
- Services and Applications - 2

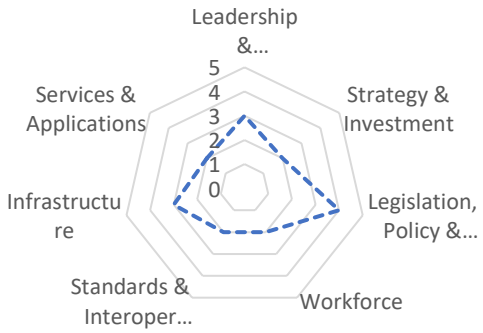


Figure 18 : Dominican Republic's Digital Readiness Profile

Jamaica - 3

- Leadership and Governance - 3
- Strategy and Investment - 3
- Legislation, Policy and Compliance - 4
- Workforce - 3
- Standards and Interoperability - 2
- Infrastructure - 3
- Services and Applications - 3

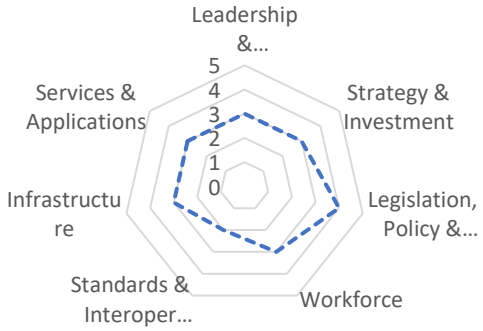


Figure 19 : Jamica's Digital Readiness Profile

Section 5 - Discussion

This section interprets the findings of the digital health maturity assessment of seven Pan American nations—Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica—against the GDHMI. It also cross-compares the findings with available literature to bring forth consistencies, deviations, and emerging trends.

The evaluation indicates varying levels of digital health maturity throughout the region. With a score of 4, Brazil, Chile, and Colombia have well developed systems, indicating the presence of digital health infrastructure, governance procedures, and strategic frameworks. Argentina, Costa Rica, the Dominican Republic, and Jamaica are at a moderate level of maturity with score of 3, where foundational elements do exist, but large-scale operationalization, scalability, and inclusiveness are not yet established.

The results are in accordance PAHO's Roadmap for the Digital Transformation of the Health Sector in the Americas, which emphasizes the region's persistent gaps in digital readiness despite intentions to provide universal access to healthcare. Countries like Brazil and Chile, which have embarked on wide-ranging initiatives such as the e-SUS system in Brazil and the Digital Hospital program in Chile, scored better in a few critical areas, especially in governance frameworks, legal infrastructure, and healthcare service delivery.

However, according to the IDB’s assessment on Latin American health systems, countries like the Dominican Republic and Jamaica struggle with inadequate interoperability frameworks, limited health ICT infrastructure, and policy enforcement. Despite having an

elevated rate of Internet connection and mobile penetration, these structural shortcomings prevent them from taking full advantage of digital transformation.

Workforce capacity was the greatest limiting factor in all countries, consistent with PAHO's 2021 Digital Transformation Toolkit, which emphasized the lack of adequate incorporation of digital skills in health professional education programs. According to the research, even countries with strong governance, such as Brazil, do not provide digital health professionals with organized training or clear career trajectories.

Thus, the results support the idea that although the regions have started strategic efforts and acknowledges the revolutionary potential of digital health, actual implementation and thorough integration across all seven theme areas are still ongoing projects. Despite universal commitment to UHC and Sustainable Development Goals, the gap between policy and practice remains wide.

Identified Gaps Across Countries

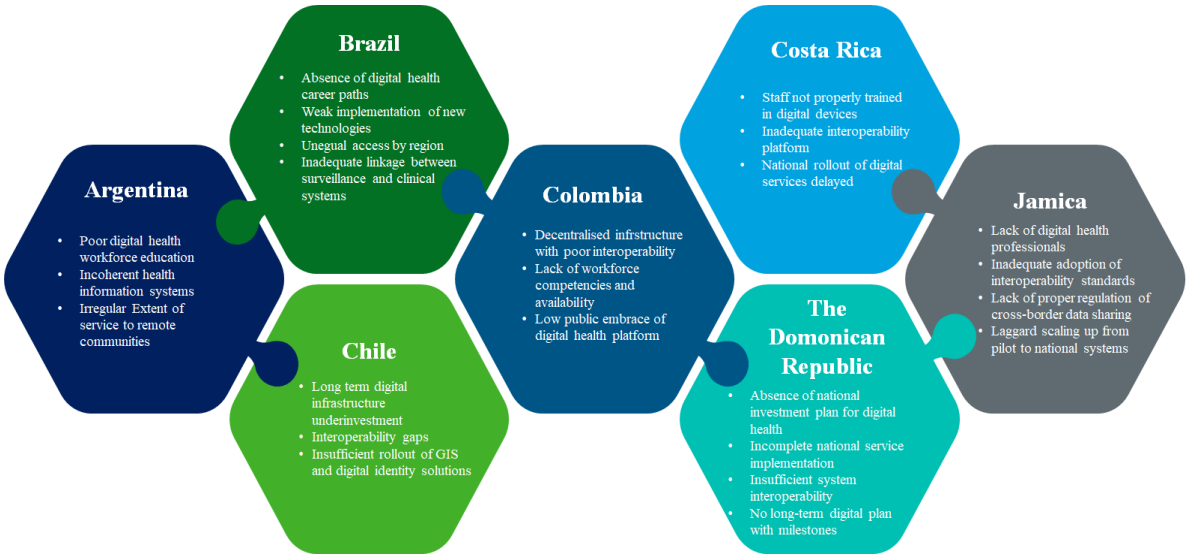


Figure 20 : Gaps Identified Across Countries

Argentina

1. **Poor Digital Health Workforce Education -** There is no incorporation of digital health skills in undergraduate and in-service training courses. Without learning pathways, healthcare professionals are not equipped for changing digital tools.
2. **Incoherent Health Information Systems -** Though EHRs are present in some areas, no integrated system exists enabling the free flow of information across facilities and administration levels, resulting in data silos.
3. **Irregular Extent of Service to Remote Communities -** Services have not been replicated sufficiently in rural and underserved areas, expanding health disparities.

Brazil

1. **Absence of Digital Health Career Paths -** Services have not been adequately replicated in rural and underserved regions, widening health disparities.
2. **Weak Implementation of New Technologies -** Though strategic texts mention AI and big data, actual implementation is weak due to infrastructure and human resource deficits.
3. **Unequal Access by Region -** Digital health services are extremely concentrated among urban populations, where remote or marginalized communities are underserved.
4. **Inadequate Linkage Between Surveillance and Clinical Systems -** Surveillance data and clinical data are not properly integrated, leading to delays in response to outbreaks and data-informed decision making.

Chile

1. **Long Term Digital Infrastructure Underinvestment -** Funding for digital health projects focuses on pilot projects without long-term maintenance or scaling plans.

2. **Interoperability Gaps -** While some standards may be in place, comprehensive interoperability and standardized health information protocols are not fully developed or implemented nationwide.
3. **Insufficient Rollout of GIS and Digital Identity Solutions -** GIS mapping for healthcare professionals and digital identities for patients are not effectively developed.

Colombia

1. **Decentralized Infrastructure with Poor Interoperability -** Digital healthcare systems in regions vary significantly, resulting in incompatibility when sharing health records across departments.
2. **Lack of Workforce Competencies and Availability -** There is little training in data governance, health IT management, and cybersecurity for healthcare professionals.
3. **Low Public Embrace of Digital Health Platform -** Digital health platforms are not familiar or utilized by the public because they are poorly promoted and offered.

Costa Rica

1. **Staff not Properly Trained in Digital Devices -** Hospital staff is not provided with the expertise to use or operate digital devices such as EHRs, GIS, or AI decision support systems.
2. **Inadequate Interoperability Platform -** Health data systems from different levels of services (primary, secondary, tertiary) do not have the ability to share data since they use incompatible data formats.
3. **National Rollout of Digital Services Delayed -** While national plans are in place, there is a lag time in their execution between institutions and communities.

The Dominican Republic

1. **Absence of National Investment Plan for Digital Health -** Digital initiatives are founded on short-term, externally funded pilot projects instead of long-term national investment.
2. **Incomplete National Service Implementations -** Pilot projects such as shared health records have not been implemented nationwide due to budget, training, and governance constraints.
3. **Insufficient System Interoperability -** Several health organizations and levels of government operate independently, reducing efficiency and continuity of care.
4. **No Long-Term Digital Plan with Milestones -** There is no stable plan with timelines and measurements for assessment, which limits responsibility and organized progress.

Jamica

1. **Lack of Digital Health Professionals -** The Ministry of Health and healthcare institutions lack sufficient skilled professionals with data science training, digital operations, and health informatics.
2. **Inadequate Adoption of Interoperability Standards -** There are interoperability standards at the national level, but they are not enforced strictly, and their application is heterogeneous among platforms.
3. **Lack of Proper Regulation of Cross-Border Data Sharing -** Despite the enactment of the Data Protection Act, enforcement, especially health-related cross-border flows of data, is poor.

4. **Laggard Scaling up from Pilot to National Systems -** Telemedicine and electronic health record systems have yet to scale up successfully from pilot stages, and therefore, system-wide effects remain inadequate.

Section - 6 Conclusion

The Pan American Region (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, and Jamaica) digital health transition is underway but at different speeds and extents in each country. The conclusions of this study, consistent with the GDHMI framework, emphasize that most countries have made a start but remain unfinished in their transition toward scalable, inclusive, and sustainable ecosystems.

Governance and leadership are relatively good in some nations, and policy guidelines have been defined. These, however, are usually not supported by dedicated investments, skilled manpower, and technical facilitators such as interoperability and feedback mechanisms. This mismatch leads to partial execution and slow adoption of digital health innovations.

Way Forward

The following directions are suggested as the way forward:

Argentina

1. **Integrate Digital Health into Medical and Public Health Curriculum -** Establish standardized courses and certifications to develop core digital skills among healthcare professionals and administrators.
2. **Build Interoperable National HIE -** Develop national EHR exchange protocols assisted by international standards such as HL7 FHIR and SNOMED CT.
3. **Encourage Community Digital Literacy Campaigns -** Initiate public awareness campaigns to enhance adoption of digital tools, patient engagement, and confidence in health systems.

Brazil

1. **Designate Digital Health Certifications Pathways -** Create formal education pathways and employment positions for digital health practitioners on the national and state levels.
2. **Solve Digital Divide in Rural Areas -** Offer targeted financing, mobile health clinics, and telemedicine facilities to low-access communities to decrease area disparities.
3. **Interconnect Surveillance and Service Delivery Platforms -** Connect surveillance systems and clinical care systems in order to have real-time, data-informed outbreak response and service management.

Chile

1. **Establish Multi-Year Budget for Digital Infrastructure -** Go beyond limited-time projects and assign multi-year budgetary resources for the upgrade and maintenance of IT infrastructure.
2. **Unify Data Standards Across all Sectors -** Mandate a common data exchange platform to harmonize health data management within public and private systems.
3. **Rollout GIS and Digital Identity -** Emphasize roll-out of GIS-based health mapping and individual digital health IDs for better tracking of care.

Colombia

1. **Develop a National Interoperability Roadmap -** Establish standardized data protocols and integration procedures for regional health IT systems to support cross-regional continuity of care.
2. **Expand Digital Health Training in Rural Health Centers -** Initiate outreach and training initiatives to empower rural healthcare professionals with the ability to manage digital platforms.

3. **Increase Population Engagement through Mobile Platforms -** Develop mobile apps and SMS-based systems for appointment scheduling, health education, and display of personal health records.

Costa Rica

1. **Coordinate with Universities for Digital Health Programs -** Coordinate with universities to create pre-service and postgraduate training in digital health and biomedical informatics.
2. **Modernize Current Health Information Systems -** Renovate current systems to allow complete interoperability throughout all levels of care utilizing internationally accepted standards.
3. **Extend National Access to eHealth Services -** Scale up teleconsultation platforms, e-prescriptions, and mobile health services in urban and rural areas.
4. **Track and Follow-up on Implementation Targets -** Utilize project management dashboards and key performance indicators (KPIs) to track real-time implementation of digital activities**.**

The Dominican Republic

1. **Establish a Centralized Digital Health Budget Line -** Establish a special national budget for digital health in order to facilitate sustainable development above donor-driven activities.
2. **Scale up Pilot Projects to National Programs -** Draw on successful pilots like EHR implementation and develop national rollout plans with phased targets.
3. **Mandate Interoperability at all Levels of Care -** Establish national data exchange laws and require compliance by public and private healthcare facilities.

Jamaica

1. **Develop and Launch a National Digital Health Workforce Strategy -** Define essential digital health competencies, develop job profiles, and invest in reskilling the public health care workforce.
2. **Improve National HIE and Implement it -** In order to integrate disparate data systems, expedite the implementation and enforcement of HIE infrastructure.
3. **Implement Privacy and Data Protection Frameworks -** To protect patient privacy, implement the Data Protection Act with specific measures pertaining to cross-border health data.
4. **Create a Single Integrated System by Combining Digital Health Platforms -** Create a unified, user-friendly interface by integrating current digital capabilities.

Annexure

A	B	C	D	E	F	G	H
THEMATIC AREAS	**Leadership & Governance**	**Strategy and Investment**	**Legislation, Policy, & Compliance**	**Workforce**	**Standrds & Interoperability**	**Infrastructure**	**Services & Applications**
INDICATORS	**Indicator 1-** Digital health prioritised at the national level through dedicated bodies / mechanisms for governance	**Indicator 5-**Population health management contribution of digital health National eHealth/ Digital Health Strategy or Framework	**Indicator 7-** Legal Framework for Data Protection (Security/ Cybersecurity)	**Indicator 11-** Digital health integrated in health and related professional pre-service training (prior to deployment)	**Indicator 15-** National digital health architecture and/or health information exchange	**Indicator 17-** Network readiness	**Indicator 19-**Nationally scaled digital health systems
	Indicator 2- Digital health prioritised at the national level through planning	**Indicator 5a-** National digital strategy alignment with Universal Health Coverage (UHC) Core Components	**Indicator 8-** Laws or Regulations for privacy, consent, confidentiality and access to health information (Privacy)	**Indicator 12-** Digital health integrated in health and related professional in-service training (after to deployment)	**Indicator 16-** Health information standards	**Indicator 18-** Planning and support for ongoing digital health infrastructure maintenance	**Indicator 20-**Digital identity management of service providers, administrators, and facilities for digital health, including location data for GIS mapping
	Indicator 2a- Health prioritised in national digital transformation and data governance policies	**Indicator 6-** Public funding for digital health	**Indicator 9-** Protocol for regulating or certifying devices and/or health services- including provisions for AI and algorithms (at higher stages of maturity)	**Indicator 13-** Training of digital health workforce			**Indicator 21-**Digital identity management of individuals for health
	Indicator 3- Readiness for emerging technologies adoption and governance	**Indicator 6a-**Private sector participation and investments in digital health	**Indicator 9a-** Protocol for regulating and certifying AI within health services	**Indicator 14-** Maturity of public sector digital health professional careers			**Indicator 21a-**Digital identity management (secure master patient index) of individuals for health
	Indicator 4- Diversity, Equity, and human rights analysis, planning and monitoring included in national digital health strategies and plans		**Indicator 10-** Cross-border data security and sharing				**Indicator 21b-**Digital identity management (secure birth registry) of individuals for health
	Indicator 4a- Gender considerations accounted for in digital health strategies and digital health governance						**Indicator 21c-**Digital identity management (secure death registry) of individuals for health
							Indicator 22-Secure Patient Feedback Systems
							Indicator 23-Population health management contribution of digital health

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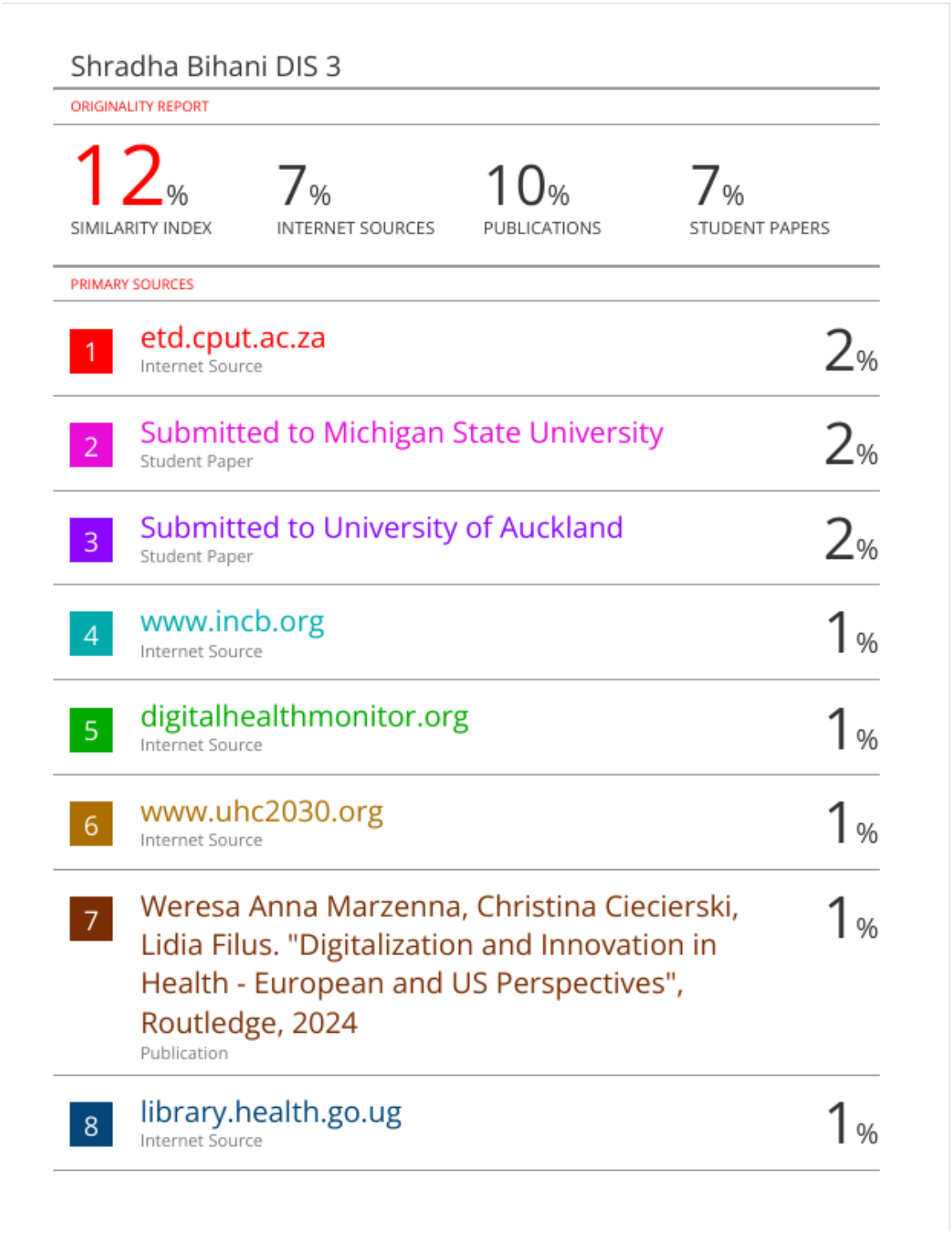

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