

Building Digital Health Infrastructure in Support of Universal Health Care in ASEAN

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Asia eHealth Information Network

Objective:

Unveil the strategies and pre-requisites to
kickstart a digital health program
(eg, funding availability, partnership)
at the national and regional levels

Outline

Overview of the WHO Global Strategy on Digital Health 2020-2025

About the Asia eHealth Information Network

What is “digital health infrastructure” for Universal Health Care?

AeHIN Mind the GAPS Strategy for Digital Health for UHC

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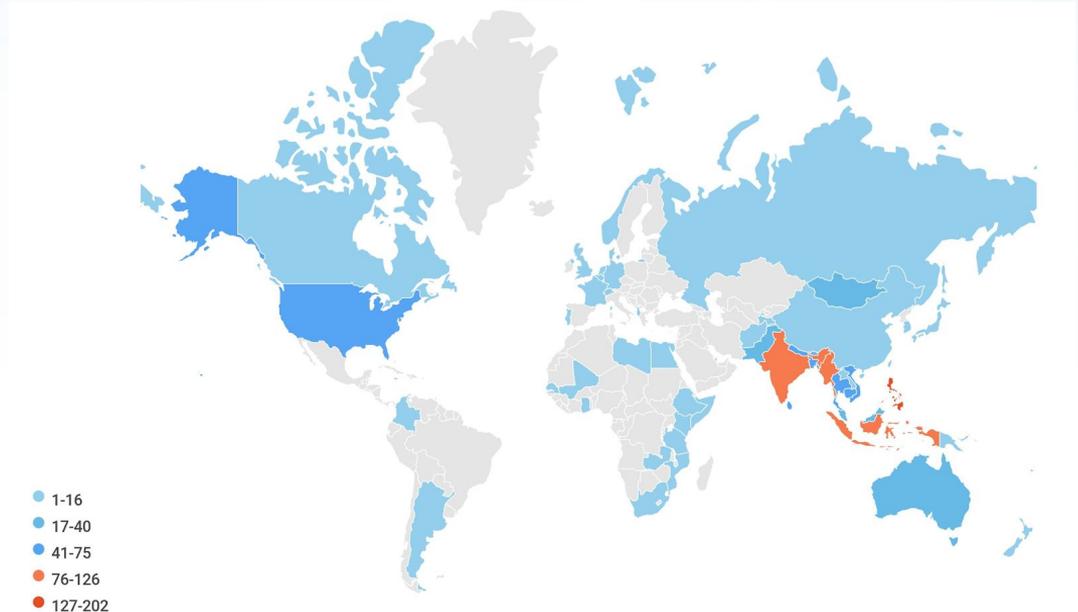


Who is AeHIN?

A network of digital health advocates from government, academe, non-government organizations, private sector.

AeHIN is a collaboration of digital health advocates created by the World Health Organization in 2011 to help Asian countries with digital health development.

From seven individuals in six countries, AeHIN has now expanded to more than 1,000 members, and more than 20 developing partners in over 60 countries





AeHIN Working Council

Representative from countries

- Bhutan
- Brunei
- Cambodia
- Hong Kong
- India
- Laos PDR
- Malaysia
- Maldives
- Mongolia
- Myanmar
- Nepal
- Philippines
- Sri Lanka
- Thailand
- Vietnam

REACH = Regional Enterprise Architecture Council for Health

COIL = Community of Interoperability Labs

SILA = Standards and Interoperability Lab Asia

AeHIN Governing Council



Dr. Boonchai Kijsanayotin

- Chair, AeHIN
- Vice President, Thai Medical Informatics Association (TMI)
- Fellow, Academy of Health Sciences and Informatics
- Member, WHO Digital Health Technical Advisory Group



Dr. Fazilah Shaik Allaudin

- Board Member, Asia Health Information Network
- Senior Deputy Director, Planning Division, MoH Malaysia
- Professionally certified in Enterprise Architecture (TOGAF9.0) and in Governance & Management of Enterprise IT (COBIT 5.0)



Dr. Alvin Marcelo

- Executive Director, AeHIN
- Chief Medical Information Officer, St. Luke's Medical Center
- Certified in governance of enterprise IT, TOGAF, Archimate, and COBIT5 Foundation/Implementation



Mr. Jai Ganesh Udayasankaran

- Board Member, Asia eHealth Information Network
- Senior Manager, Healthcare Information Technology and Telehealth at Sri Sathya Sai Central Trust, India
- Digital Health Roster of Experts, World Health Organisation (WHO)

2011 April Hoi An, Vietnam

Conference on Health Information Systems Interoperability

Key takeaway: all participants desired interoperability but no one had achieved it yet

2011 June Manila, Philippines

Conference on Asia-Pacific Leadership on Health Information Systems

Key takeaway: countries had developed different solutions to interoperability and there was value in exchanging knowledge and sharing local experts

- **IDEA: launch a peer learning network (6 countries volunteered to seed the network)**

2011 December Bangkok, Thailand

1st Strategic Planning for AeHIN

Key strategic areas:

- 1. Enhance leadership and governance for eHealth**
- 2. Build capacity for eHealth and civil registration/vital statistics/health information systems**
- 3. Exchange knowledge and share resources**
- 4. Promote standards for interoperability**

2012 August Bangkok, Thailand

1st AeHIN General Meeting

Key takeaways:

1. Encourage leadership and governance for eHealth
2. Build capacity for eHealth and civil registration/vital statistics/health information systems
3. Exchange knowledge and share resources
4. Promote standards for interoperability

First offering: training on standards and interoperability (HL7)



Asia eHealth
Information
Network
Workshop

7-10 August 2012,
Bangkok, Thailand



Asia eHealth
Information
Network
Workshop

7-10 August 2012,
Bangkok, Thailand



2013 September Manila, Philippines

2nd AeHIN General Meeting

Key takeaway:

- Create a governance structure - the AeHIN Working Council with representatives from member countries

Next offering: training on enterprise architecture (TOGAF)



3 Regional eHealth Conferences in Manila, Philippines

September 23-24
AeHIN General Meeting

September 25-27
IT4UHC

September 25-27
Regional Workshop on Developing Health Strategies



3 Regional eHealth Conferences in Manila, Philippines

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AeHIN General Meeting

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IT4UHC

September 25-27
Regional Workshop on Developing Health Strategies



2014 Manila, Philippines

3rd AeHIN General Meeting

Summary: countries should be guided by a blueprint (or enterprise architecture) with the seal of approval by national leaders

Next offering: training on IT Governance (COBIT5)



2015 Bali, Indonesia

4th AeHIN General Meeting

Summary: Interoperability requires coordination of programs, projects, and people from different agencies

Next offering: training on project management (PRINCE2)
- concept of Interoperability Lab was born



2017 Naypyidaw, Myanmar

5th AeHIN General Meeting

Summary: Mind the GAPS framework was launched

- **Governance**
- **Architecture**
- **People and program management**
- **Standards and interoperability**



2018 Colombo, Sri Lanka

6th AeHIN General Meeting

Summary:

Community of Interoperability Labs launched

Standards and Interoperability Lab Asia as the first lab



#DigiHealthCon #DigiHealthWk

Digital Health Week 2018

7th - 12th October 2018 Cinnamon Grand - Colombo, Sri Lanka



AeHIN
6th Conference &
General Assembly



APAMI 2018
10th Biennial
Conference



IMIA Board
Meeting &
General Assembly



Global
Telehealth
2018



3rd Commonwealth Digital
Health Conference & Awards &
Digital Health Sri Lanka 2018



Digital Health Week 2018

6th AeHIN GENERAL MEETING
AND CONFERENCE



IMIA BOARD MEETING AND
GENERAL ASSEMBLY

8 October 2018 - Day 2

CINNAMON GRAND
COLLOMBO, SRI LANKA

7-12 October
2018

<http://dhw2018.org/cmadhc/>

#DigiHealthCon #DigiHealthWk

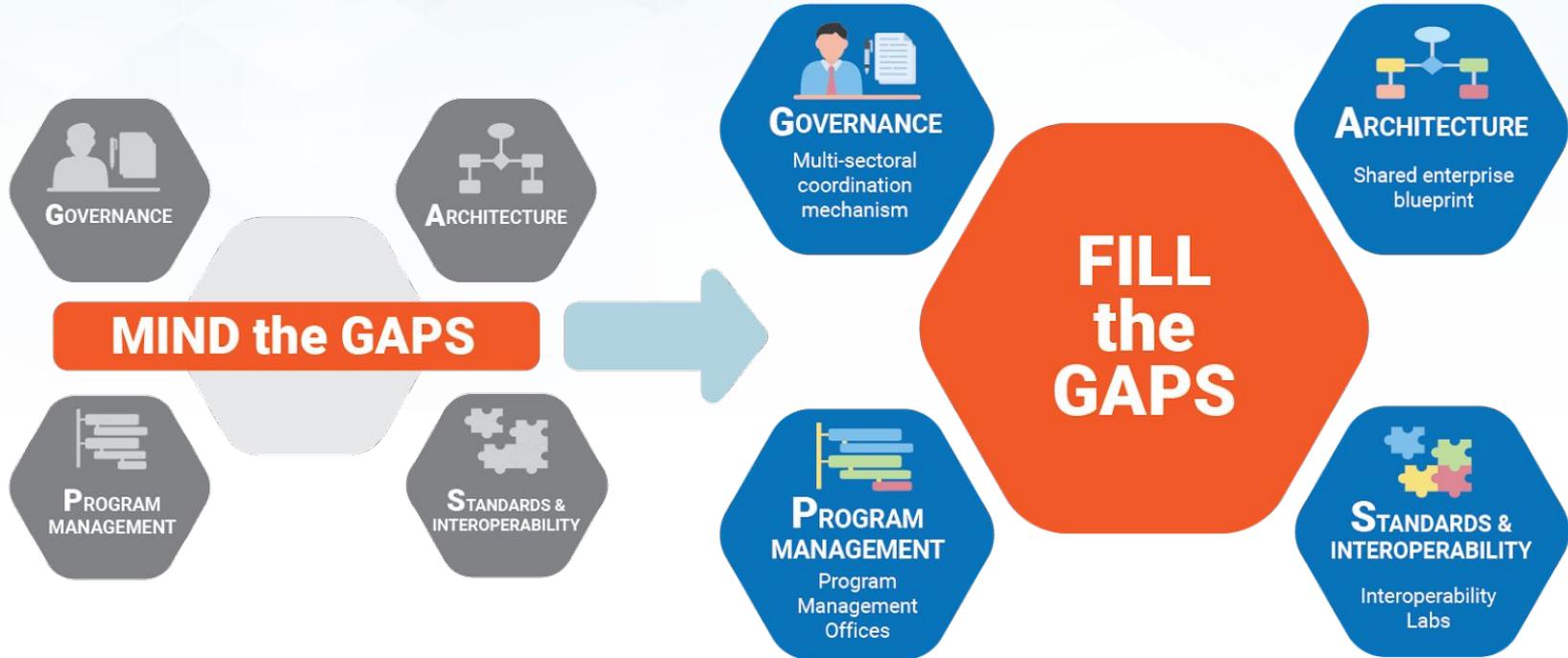
2021 Online

7th AeHIN General Meeting

Summary: Strengthen the Regional Enterprise Architecture Council for Health and the Community of Interoperability Labs

Start creating interoperability capability in countries

In 10 years of learning from each other, we discovered that national healthcare IT systems are complex and to succeed, countries need to work on four important fundamental topics -



FOR GOVERNANCE

We call upon stakeholders to support the **leadership of the Ministry of Health** in developing national digital health strategies that respond to the needs of Universal Health Coverage, such as registration, prevention, treatment, rehabilitation. As health sector leader, the Ministry of Health shall ensure coordination, collaboration of digital health projects of partners and stakeholders.



GOVERNANCE

Multi-sectoral
coordination
mechanism

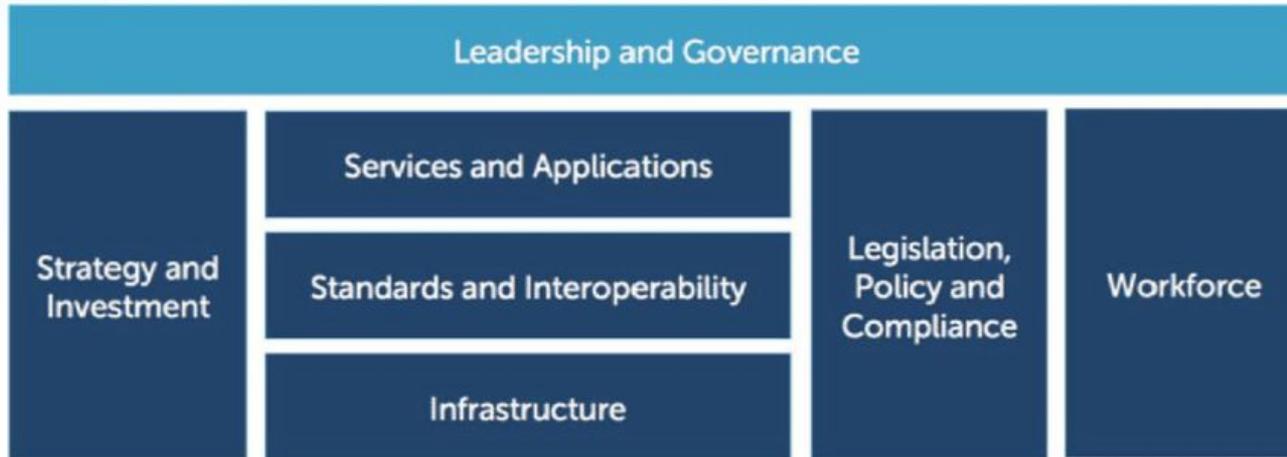
**How do we then
navigate the complex
system?**

What do we mean by “govern”?

National eHealth Strategy Toolkit Overview



WHO-ITU 7 Components of National eHealth Strategy (2012)



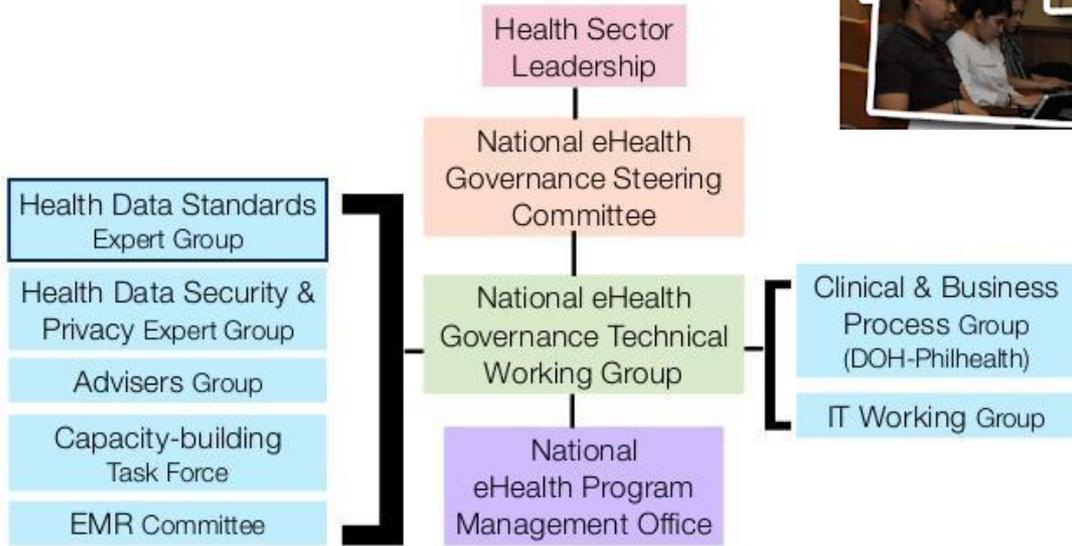
Source: [WHO-ITU National eHealth Strategy Toolkit](#)

WHO-ITU Component: Leadership and Governance



Source: WHO-ITU National eHealth Strategy Toolkit

Governance: Philippines



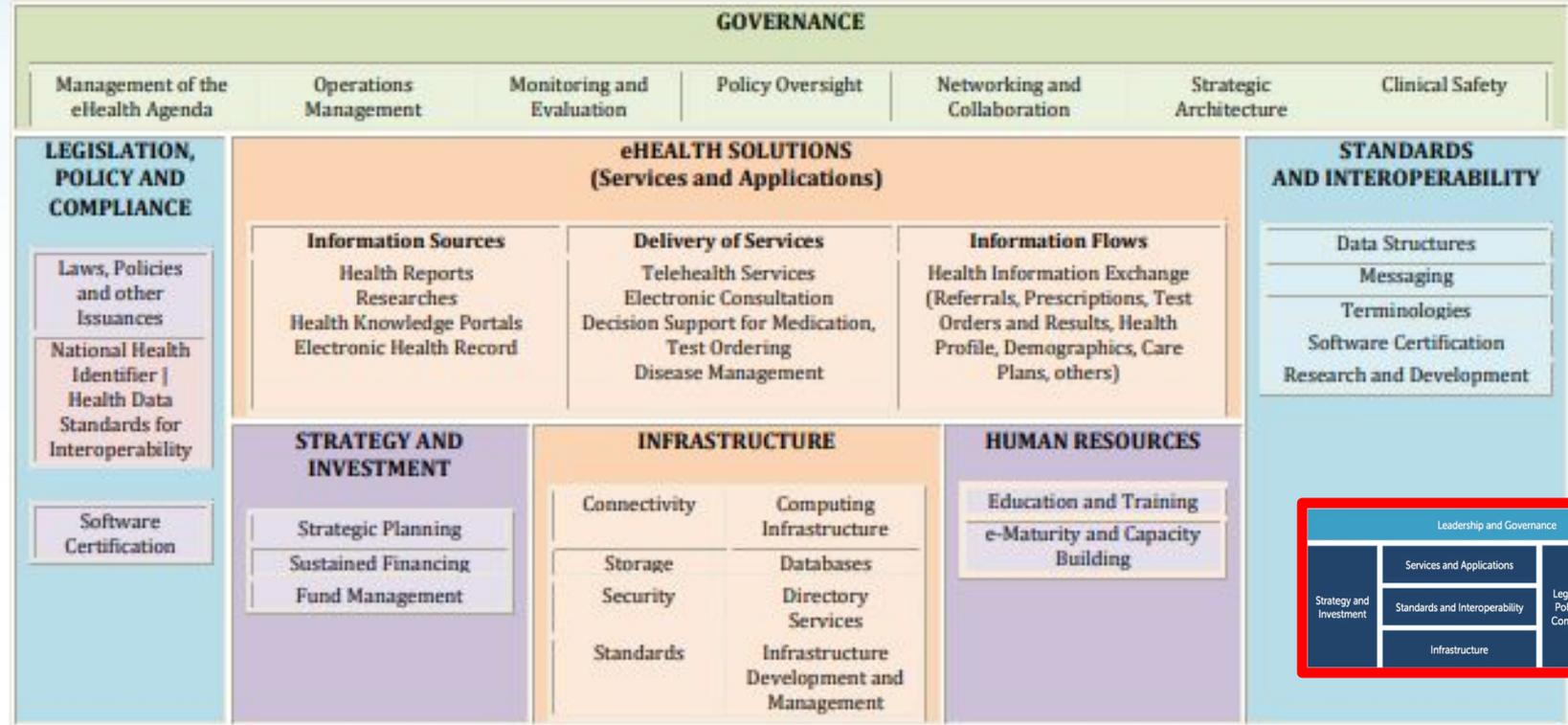
eHealth Leadership and Governance

Philippines

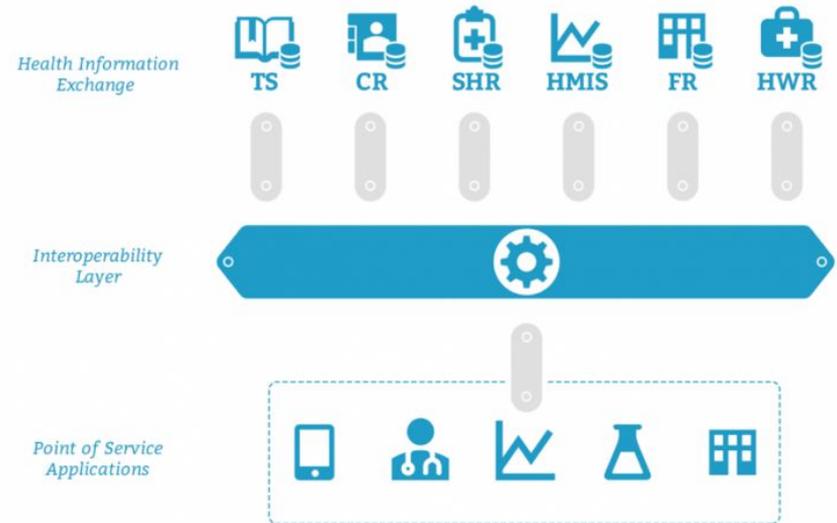
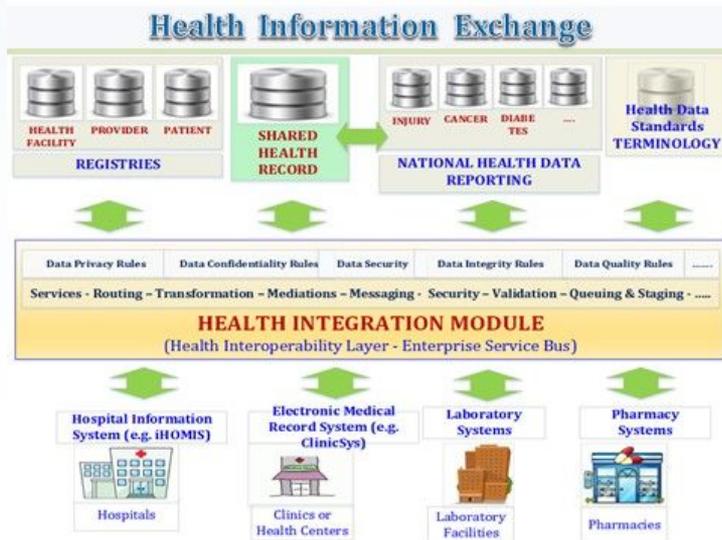


Source: <https://www.slideshare.net/isiptan/government-or-private-sector-the-future-of-asias-healthcare-infrastr>

Philippine National eHealth Framework



Architecture: Philippines



Source: ehealth.doh.gov.ph

Source: wiki.ohie.org

For AeHIN, Digital Health Governance means:

- 1) **Creating a multi-sector coordination structure led by the Health Sector**
- 2) **Setting priorities for UHC**
- 3) **Sharing a blueprint that contains priority digital health projects (some are with ICT, insurance, CRVS, etc)**
- 4) **Confirm ownership of key projects (national ID, etc)**
- 5) **Investing on these projects and;**
- 6) **Monitoring the projects towards success**

Governance means a) making sure the needs of your sector are met, and b) meeting together to coordinate your decisions (led by MOH).

FOR ARCHITECTURE

Complex systems are difficult to navigate. In these environments, a **shared blueprint and roadmap** that all stakeholders can understand is important.

We recommend:

1. designating an **enterprise architect in the MOH** to oversee this blueprint
2. engaging **experienced professional and certified enterprise architects** to advise government and development partners on the blueprint formulation
3. consolidate #1 and #2 into a **Regional Enterprise Architecture Council for Health (BEACH)** for knowledge sharing



ARCHITECTURE

Shared enterprise
blueprint

Enterprise Architecture (EA)

(EA) is a blueprint—a coherent framework of principles, methods and models—used in the design and realisation of the enterprise’s organisational structure, business process, information systems and digital health infrastructure. EA is also commonly described as a master plan providing a holistic view of the entire enterprise as a system of systems

(Source: BMJ Health & Care Informatics, July 2020)

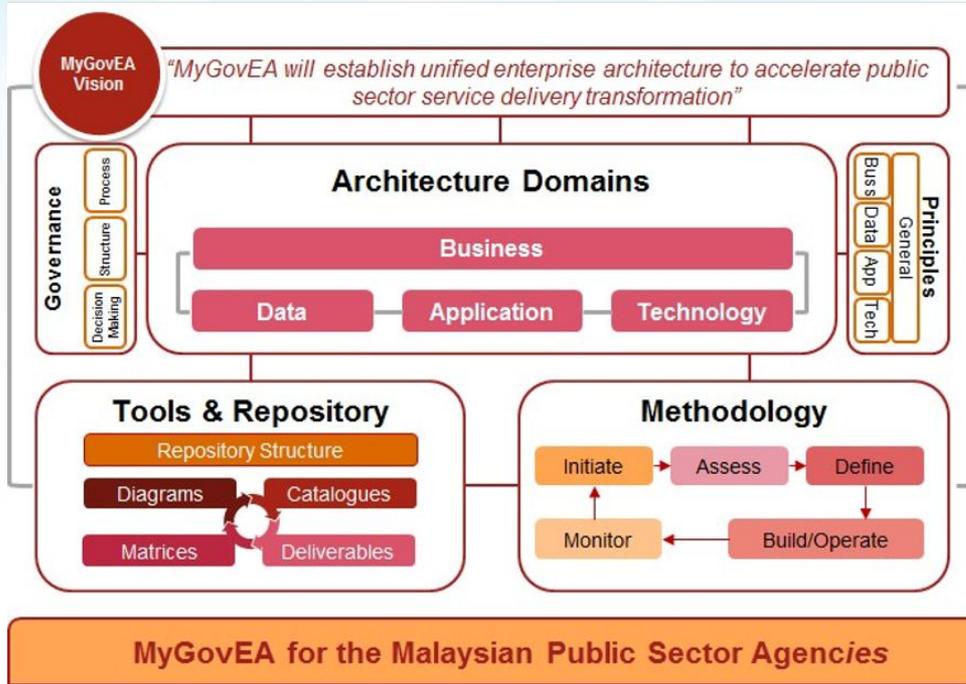
Why is EA important at the national level?

- Aligns business and technology strategy into a single initiative to achieve a common goal.
- Delivering citizen centric services cost effectively
- Strengthening cross-agency collaborations for information sharing data mining and analysis, application and infrastructure consolidation, and shared services.

What are the major challenges with EA in many countries?

- Lack of EA skills and competency
- Lack of EA knowledge and leadership among senior management
- A grey area between ICT and Business – need a driver to push EA
- Need clear understanding that **ICT project is all about business transformation**

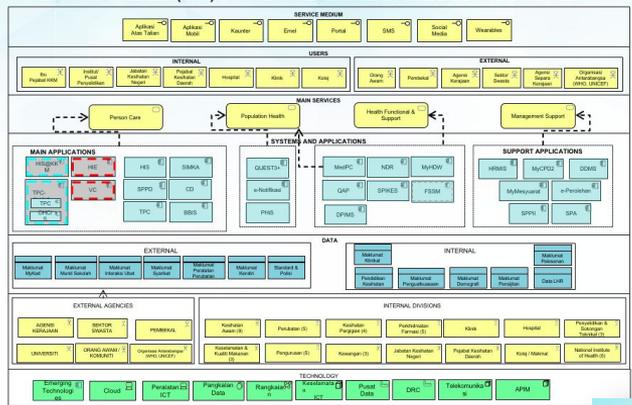
EA of the Malaysia's Public Sector (MyGovEA)



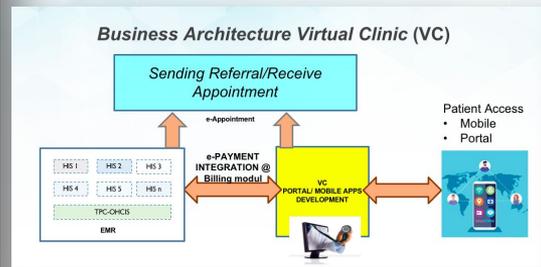
- The master plan of MyGovEA has been developed in 2015.
- The public sector EA shall be implemented by adopting MyGovEA.
- Adopt EA in all ICT project requirement and approval phase since 2019; must have **EA methodology and BDAT** (business, data, technology and application architecture)
- EA methodology also is used in development of Digitilisation Strategic Plan 2021-2025 of every Ministries.
- Resulted in better convergence and alignment of business and ICT strategies

BDAT Architectures in MOH

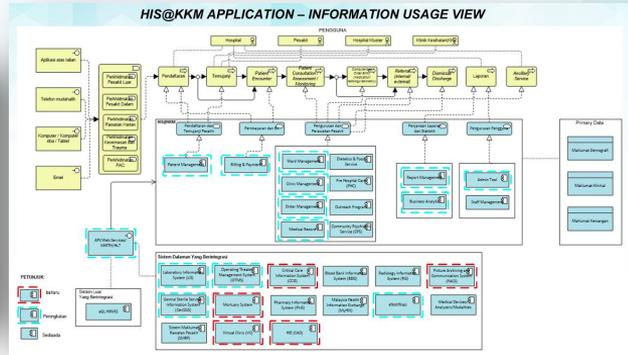
MINISTRY OF HEALTH (MOH) : CONCEPTUAL ORGANIZATIONAL LANDSCAPE MAP VIEW



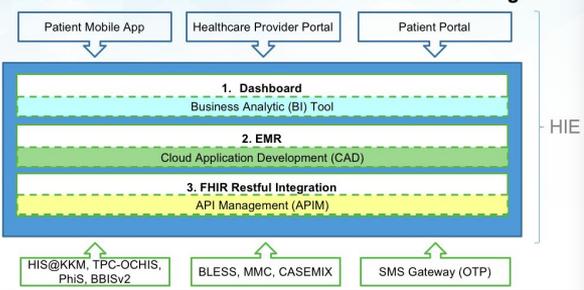
Business Architecture Virtual Clinic (VC)



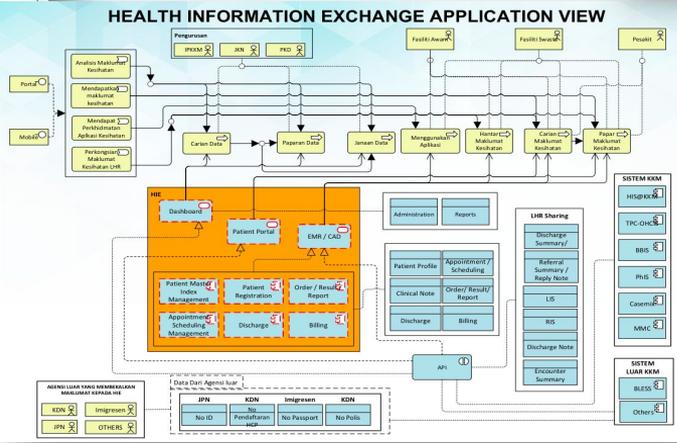
HIS@KKM APPLICATION - INFORMATION USAGE VIEW



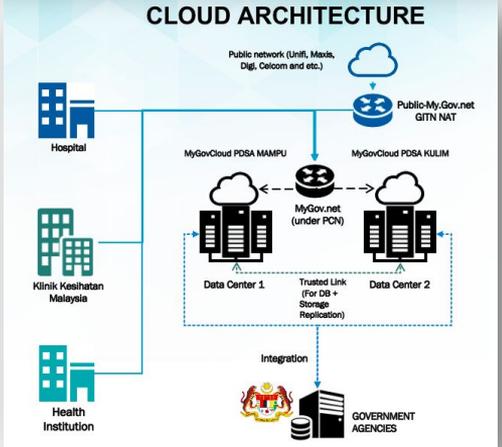
Business Architecture Health Information Exchange



HEALTH INFORMATION EXCHANGE APPLICATION VIEW



CLOUD ARCHITECTURE



FOR PEOPLE AND PROGRAM MANAGEMENT

- ❖ National digital transformation in health is complex
- ❖ Lack of capacity in MoH to manage programs (multiple simultaneous digital health projects)
- ❖ Requires multi-sectoral coordination
- ❖ Consensus-building takes time but the results are more sustainable

Interoperability requires close coordination of various projects often lead by multiple departments. Effective program management ensures various stakeholders to synchronize their efforts with each other to achieve optimal impact. *Standards, when adopted by all stakeholders, enables interoperability!*



PROGRAM MANAGEMENT

Program
Management
Offices

FOR PEOPLE AND PROGRAM MANAGEMENT

- ❖ Call to Action: AeHIN calls upon stakeholders to **support the MoH strengthen the capacity and capability** of their national digital health Program Management Team/Office. This includes developing capacity to manage multiple digital health-related projects in partnership with other sectors
- ❖ We encourage MoH to **establish a pool of certified project managers (National Program Management Team/Office)**
- ❖ MoH may **leverage regional learning networks like AeHIN** to catalyze knowledge exchange across countries in the region to facilitate peer learning/sharing/support

Encourage Cooperation -> Enable Collaboration -> Ensure Coordination -> Endeavour Convergence -> Experience Coherence

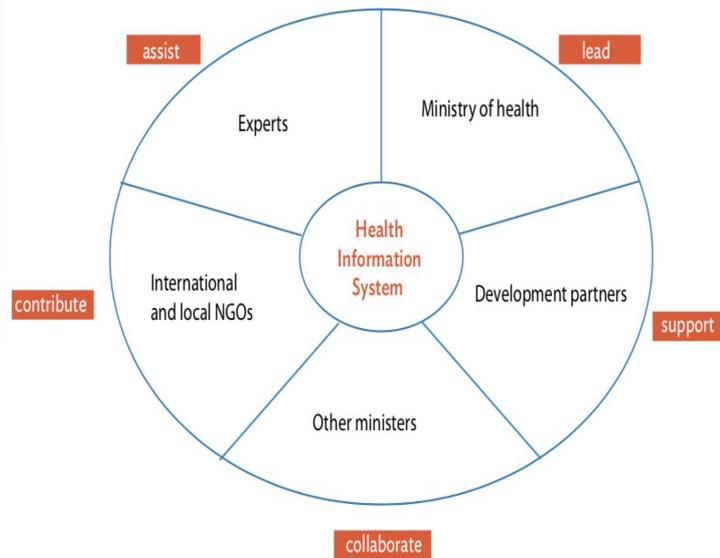


PROGRAM MANAGEMENT

Program Management Offices

Convergence Workshop

- ✓ Establish a multi sectoral coordination mechanism for the national digital health mission with MoH as the lead agency
- ✓ All stakeholders converge their efforts and support the national digital health strategy



Source: Digital Health Convergence Meeting Tool Kit, Asian Development Bank (ADB)

<http://dx.doi.org/10.22617/TIM189609-2>

Digital Health Convergence Workshop Lao PDR

Tuesday-Wednesday, March 30th – 31st, 2021, 08:30am – 17:00pm
Hotel Crowne Plaza, Vientiane Capital, Lao PDR



LAO PEOPLE'S DEMOCRATIC REPUBLIC
Peace Independence Democracy Unity Prosperity



Stakeholders' Engagement - Digital Health Priorities for 2022

3rd December 2021, 13.30 – 17.00
Vientiane, Lao PDR

Meeting Report

Department of Planning and Cooperation
Ministry of Health
Lao PDR



Lao PDR Digital Health Convergence Stakeholder Workshop

3 December 2021, 1:30 PM Vientiane Time

During the Digital Health Convergence Workshop held in March 2021, stakeholders agreed on developing the foundations for digital health such as Governance, Architecture, Program Management and Standards. In addition, the workshop produced an action plan for the next five years focusing on 7 priorities such as infrastructure, workforce, services and applications, standards and interoperability, leadership and governance, strategy and investment, and policy and legislation. The Ministry of Health will host a half day workshop with the support of the Asia eHealth Information Network (AeHIN), to gather digital health stakeholders and developing partners to present the findings of the Digital Health Convergence Workshop, prioritize key focus areas, map resources, and align for action. In addition, this workshop will serve as reference for the redaction of the next 5-year Digital Health Strategic Plan to build a cost-efficient, interoperable, and sustainable Digital Health.



1. Digital Health Strategy
2. Governance Structure
3. Program Management
- 4.a. Standards - Unique Health ID
- 4.b. Standards - Medical Terminologies
- 4.c. Standards – Interoperability
- 4.d. Standards - Medical Products and Technologies

- 4.e. Standards - Pharmacies, Warehouses, Laboratories
- 4.f. Standards – EMR
5. Enterprise Architecture
6. eGovernment
7. Health ICT Workforce

Source: Department of Planning and Cooperation, Ministry of Health, Lao

For more information please look-up:
<https://www.asiaealthinformationnetwork.org/2021/05/27/laos-convergence-workshop-2021/>

FOR **S**TANDARDS AND INTEROPERABILITY

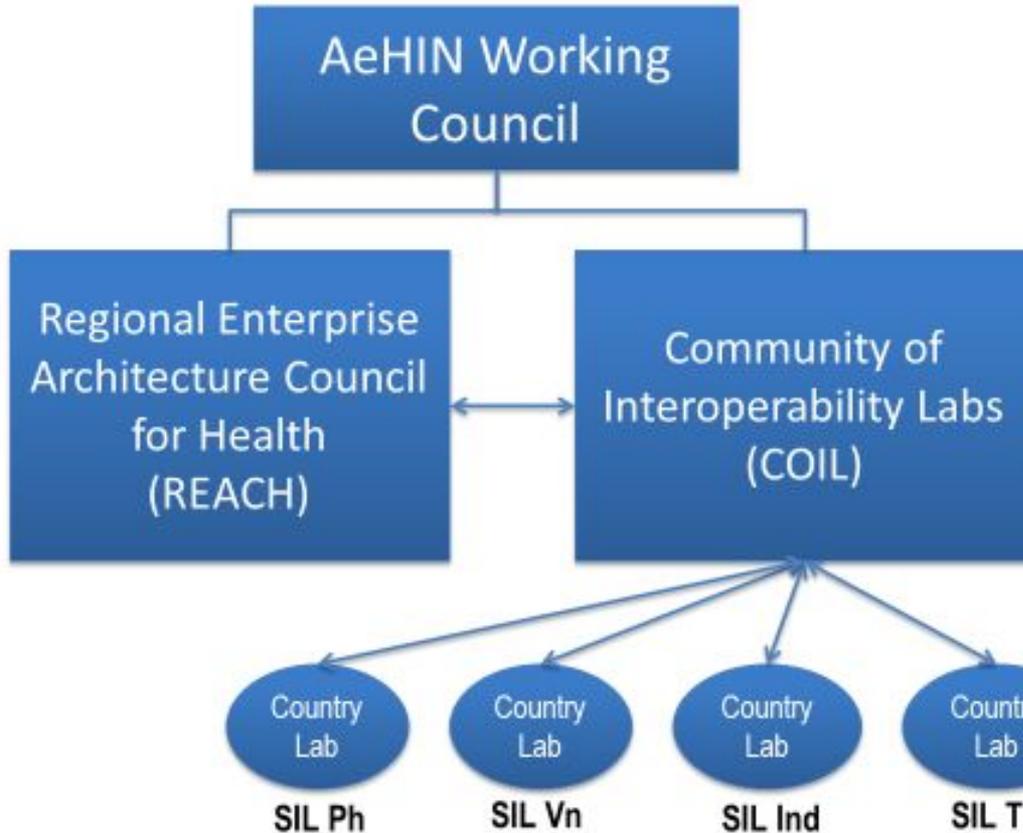
Call to Action: We request open access and technical assistance to international health standards like ICD11 and HL7-FHIR. These **health standards** are crucial components of the **interoperability blueprint**, which will enable the availability of health data for better monitoring of population health and understanding of stakeholders within countries and across the region.



STANDARDS &
INTEROPERABILITY

Interoperability
Labs

The REACH and COIL



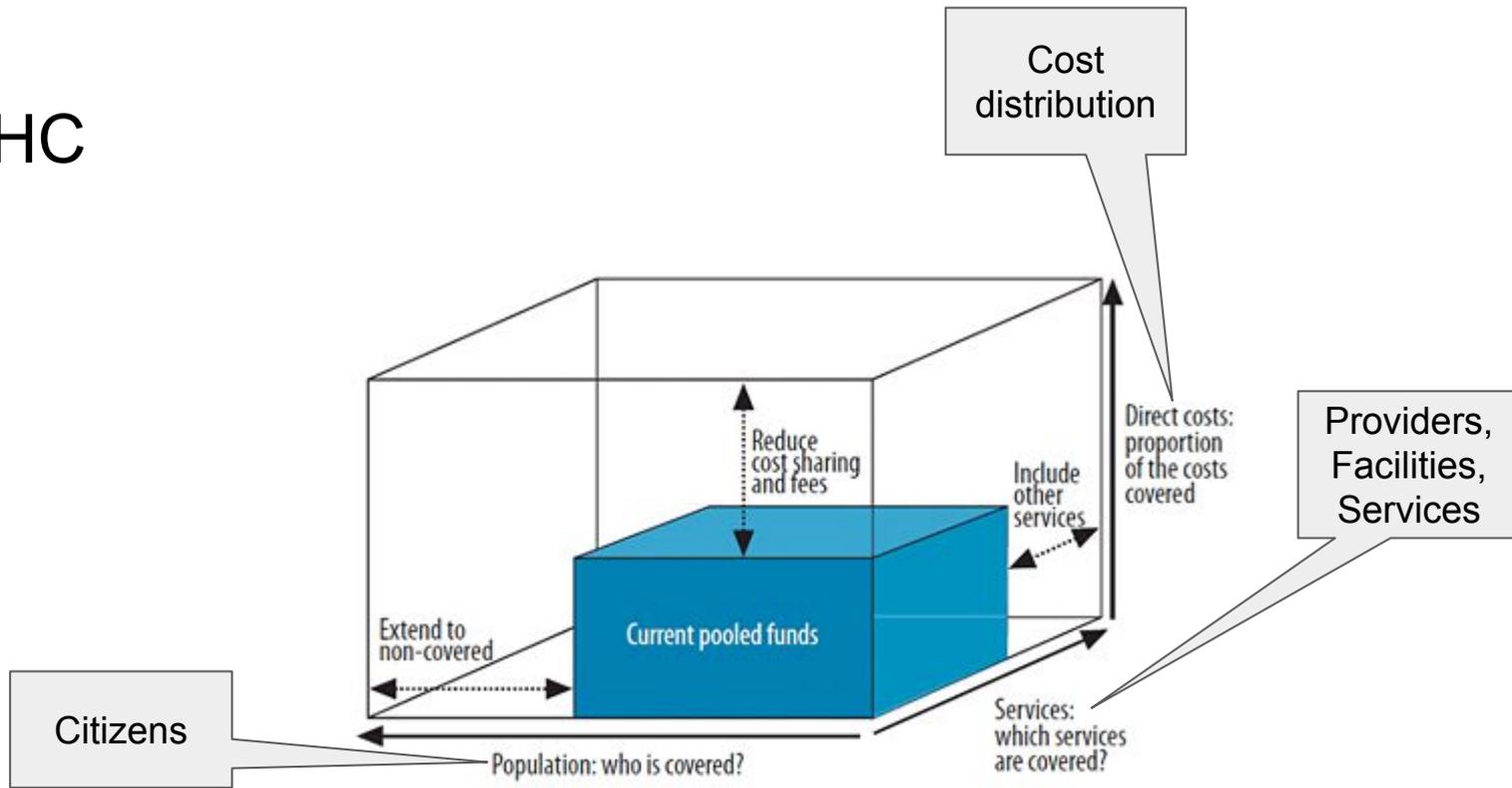
COIL Call to Action

- 1) create one interoperability lab following the template
- 2) support an interoperability problem identified by the MOH

REACH Call to Action

- 1) identify an internal enterprise architect
- 2) get external support from professional architect
- 3) nominate #1 and #2 to REACH

UHC



Three dimensions to consider when moving towards universal coverage

[Source: Tracking UHC 2015](#) (WHO)

To build the Digital Health Infrastructure, countries should focus on their Governance, Architecture, People and Program Management, Standards and Interoperability





aehin.org



[WeAreAeHIN](#)

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