







































Health and Medical Practice Insurance Pte Ltd







## Sharing of MOHH Approach to EA

Dang Minh Duc

### First Up, Organization Context - Singapore ...



4.99 million people on 710.3 sq km (7,025/km2)

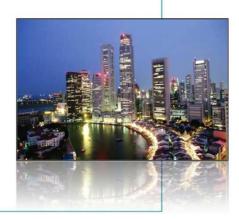
Ethnically diverse:

Chinese: 75 per cent

Malays: 14 per cent

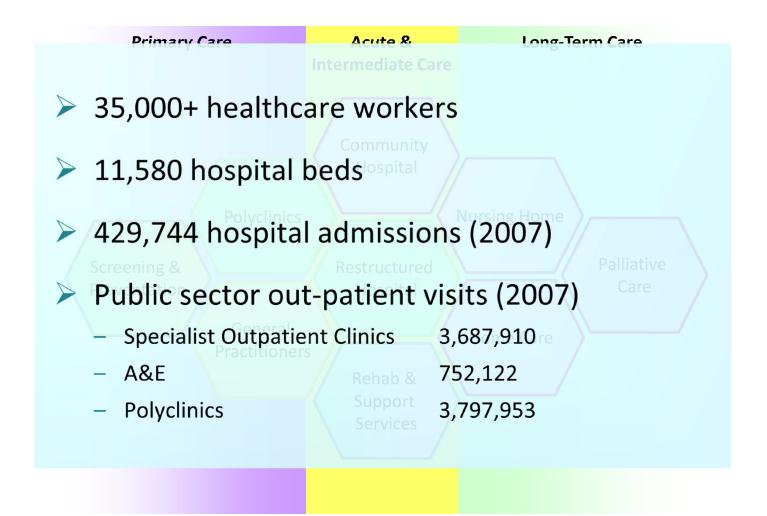
Indians:
9 per cent

- It's Characters:
  - A city state
  - Rich technology foundations
  - Support of the government
  - Will of the people
  - Less legal constraints
  - 'It will be done'



### The Healthcare Services

Public sector

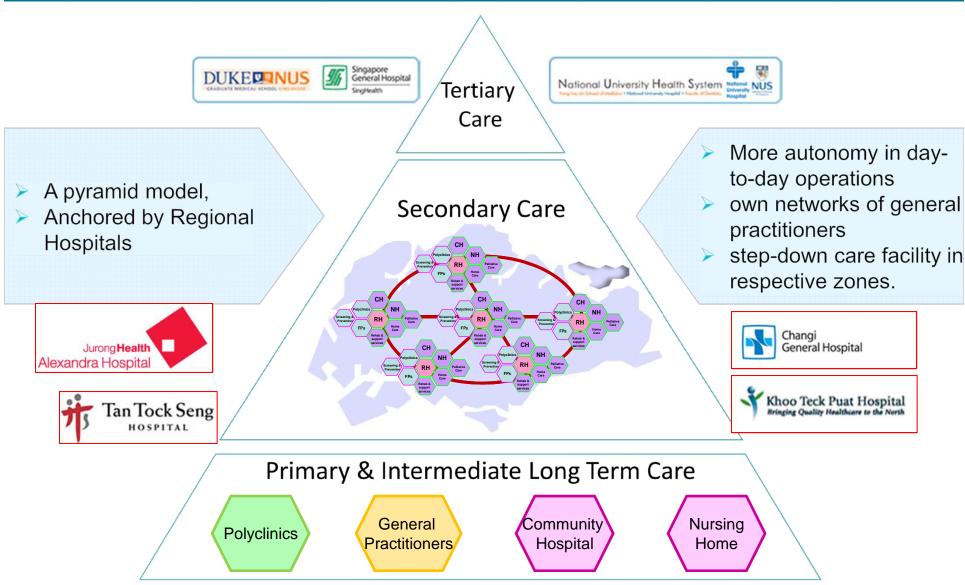




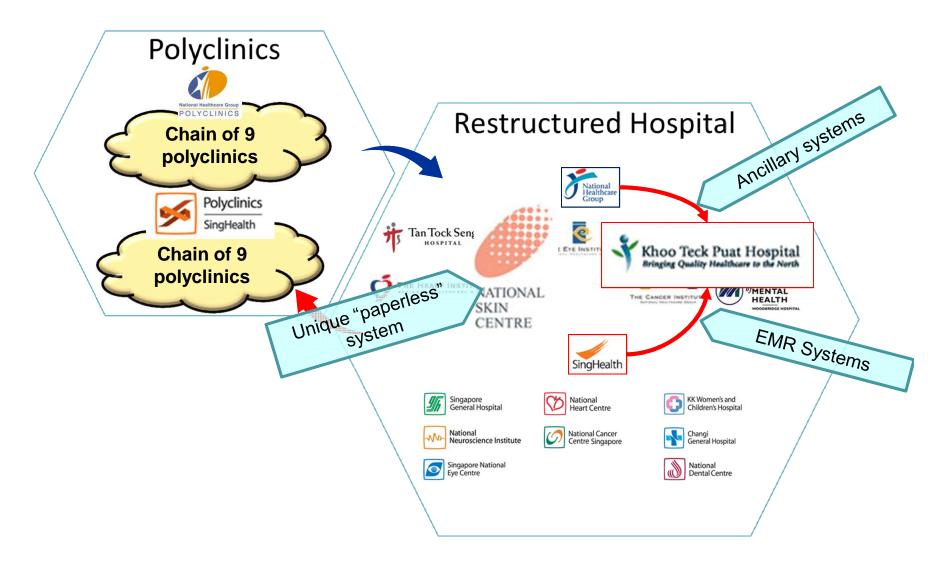
Private sector

People sector

### At The 30,000 Feet...



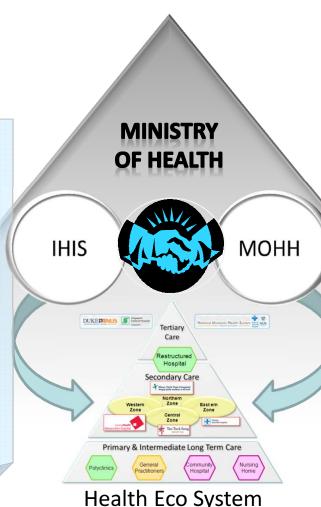
### Fun & Challenges For EA



### **Organization Structure**



- Lead and Coordinating changes at clusters/ healthcare institutions level
  - Chronic disease Management
  - Integrated Care
  - JGH



#### **MOH** HOLDINGS

- Coordinate and facilitates collaboration across clusters/healthcare institutions
  - National Electronic Health Records
  - Integrated cares
  - Information exchange/standards
- And it's not just "across", we also have Community care, covering GP and ILTC, and PHM

### **Driving An Ambitious National IT Strategy**



Goal

To accelerate sectoral transformation through an Infocomm-enabled personalised healthcare delivery system to achieve high quality clinical care, service excellence, cost-effectiveness and strong clinical research

Outcomes

Well-Integrated
Quality
Healthcare

Cost-effective Healthcare Services Greater ability of public to manage their health

Strong clinical and health services research

Strategic Thrusts

Enable integrated healthcare services

Enable integration between healthcare and advances in biomedical science

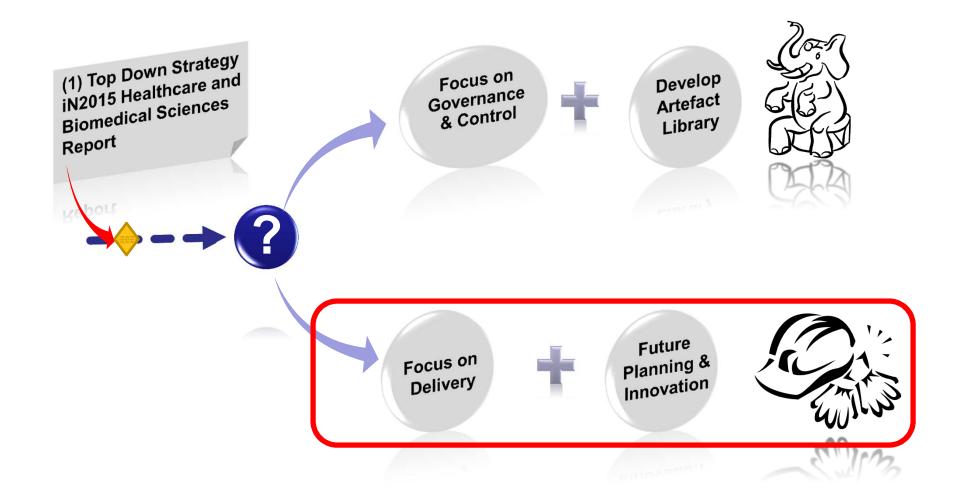
**Strategies** 

Health Information
Exchange - e-Enable
seamless and secured
information exchange in
the healthcare value
chain

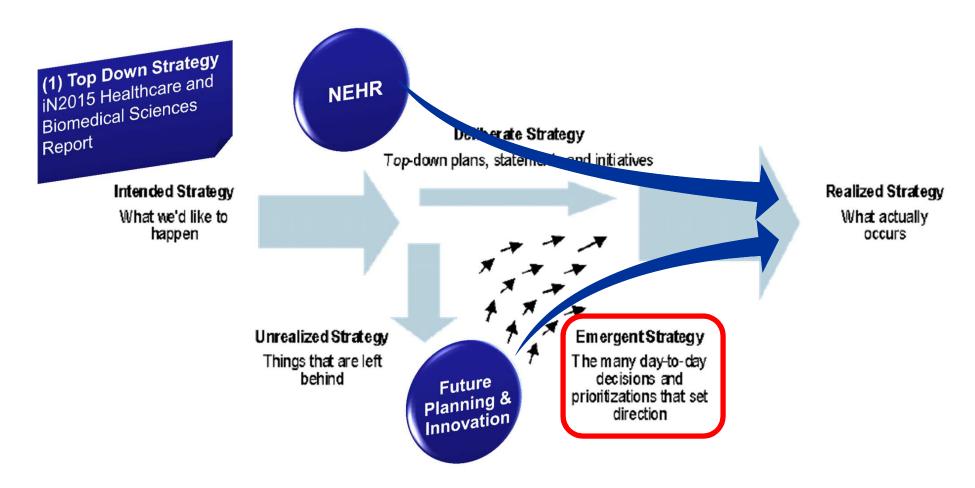
Integrated Healthcare Continuum - e-Enable processes and linkages across the healthcare value chain

Translating Biomedical Research to Healthcare Delivery - integrate clinical and biomedical research data

## At MOHH, The Alternative paths for Architecture



### Reflecting back...



Gartner Research, 10 Feb, 2010 Case Study: Understanding the Impact of Emergent Strategy on Enterprise Architecture

### Enterprise Architecture – Value Approach



Work Collaboratively



Become part of natural process



Add value early on



It's always about Delivery



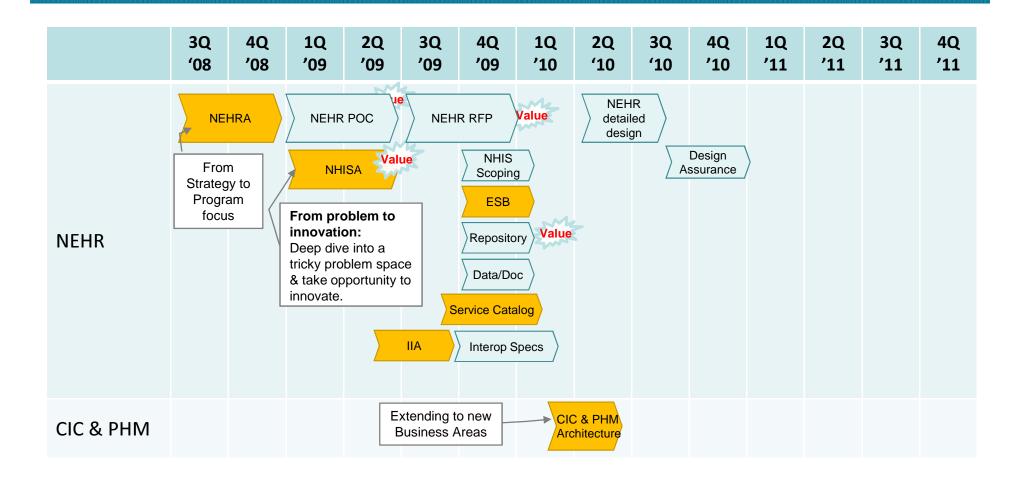
Pragmatic approach



Be supportive



### And Some of The Architecture Work



# Developing The Maturity Model to Assess The current state of CIC / PHM

#### iN2015 Strategic Framework

From iN2015 Healthcare and Biomedical Sciences Report

To accelerate sectoral transformation through an Infocomm-enabled personalised healthcare delivery Goal system to achieve high quality clinical care, service excellence, cost-effectiveness and strong clinical research Greater Strong Well-Costability of clinical and effective **Integrated** public to health **Outcomes** Healthcare Quality manage services Healthcare Services their health research **Enable integration** Strategic **Enable integrated** between healthcare and **Thrusts** healthcare services advances in biomedical science Health Integrated Translating Information Healthcare Biomedical Exchange - e-Continuum - e-Research to **Enable seamless Fnable** Healthcare and secured **Strategies** processes and Delivery information linkages across integrate clinical exchange in the the healthcare and biomedical healthcare value value chain research data chain

### ... suggests a journey summarised by ...

### Integrated and Self Managed Care Maturity Model

**Optimized** 

- Visibility of supply, demand, costs and care pathways
- Well populated clinical database
- Patients have visibility of their health journey and available options

Integrated

- Manage 'cases' across care settings using defined care pathways
- Enable interconnection of clinicians, carers and patients in support of integrated care
- Shared use of common services and effective right-siting

Connected

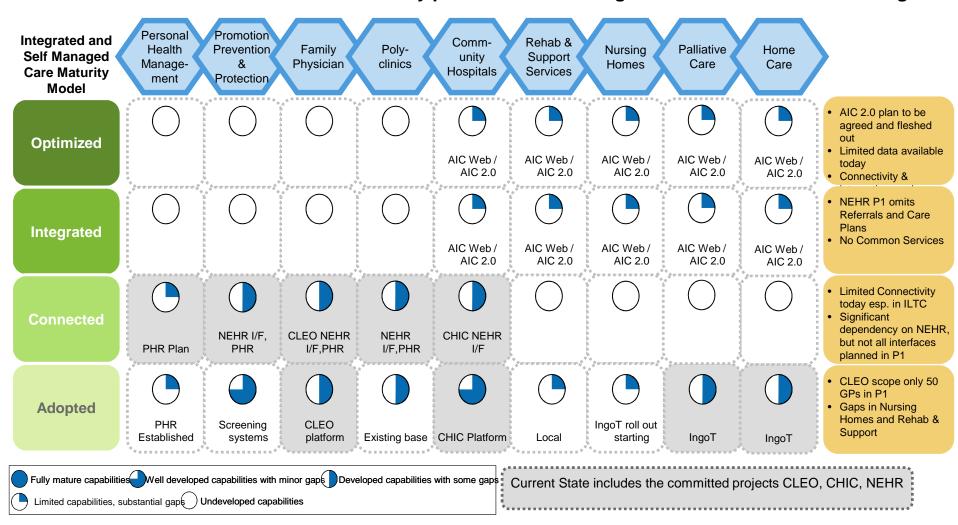
- Connection of core health systems to support electronic transactions initiated across settings
- For example PHR / NEHR for access to an individuals common health record, eReferrals, or e-Prescriptions

**Adopted** 

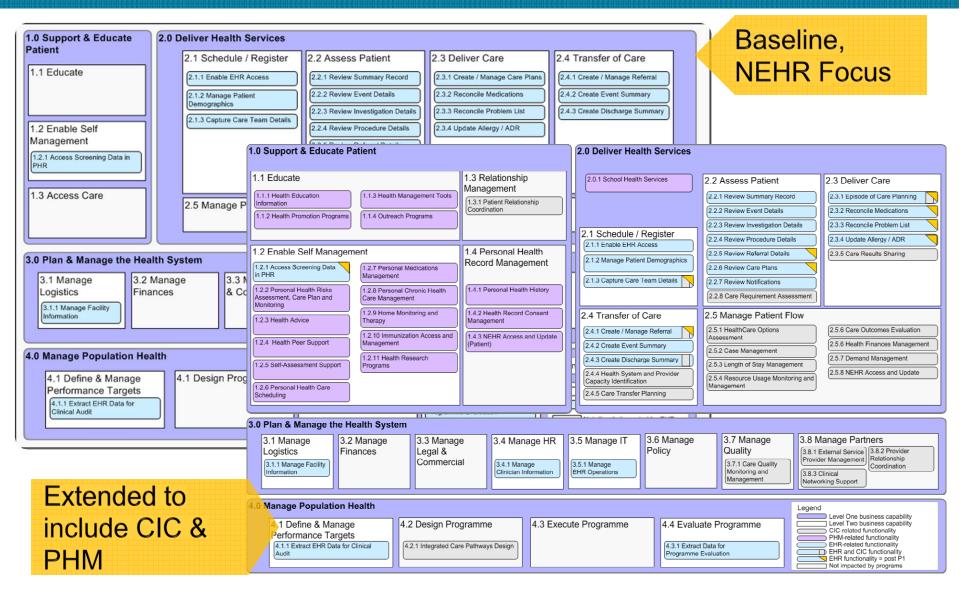
- Adoption of Health Infocomm technologies across all care settings
- System adopted are core health systems such as EMR, NEHR, PAS, RADT, PHR

#### A current State Assessment

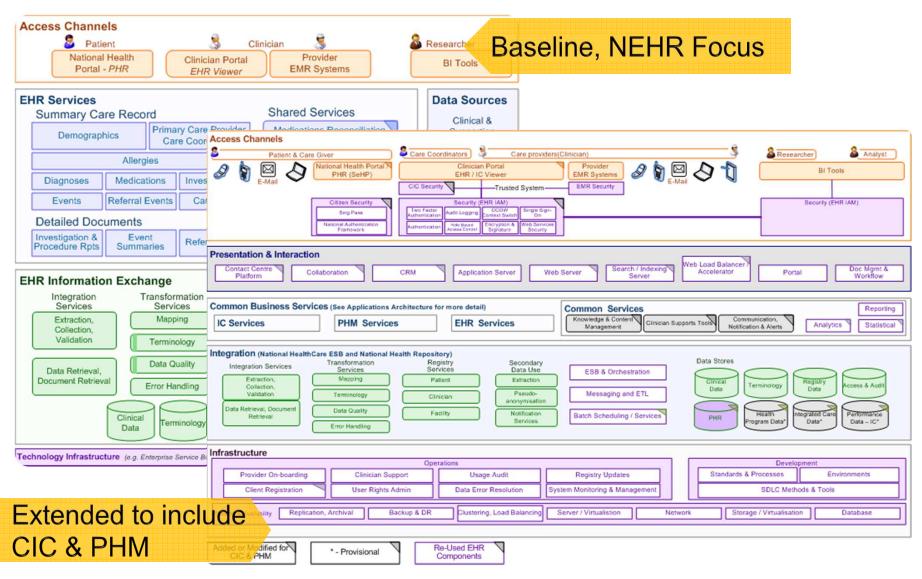
#### Assessment on the functionality provided and coverage within and across care settings



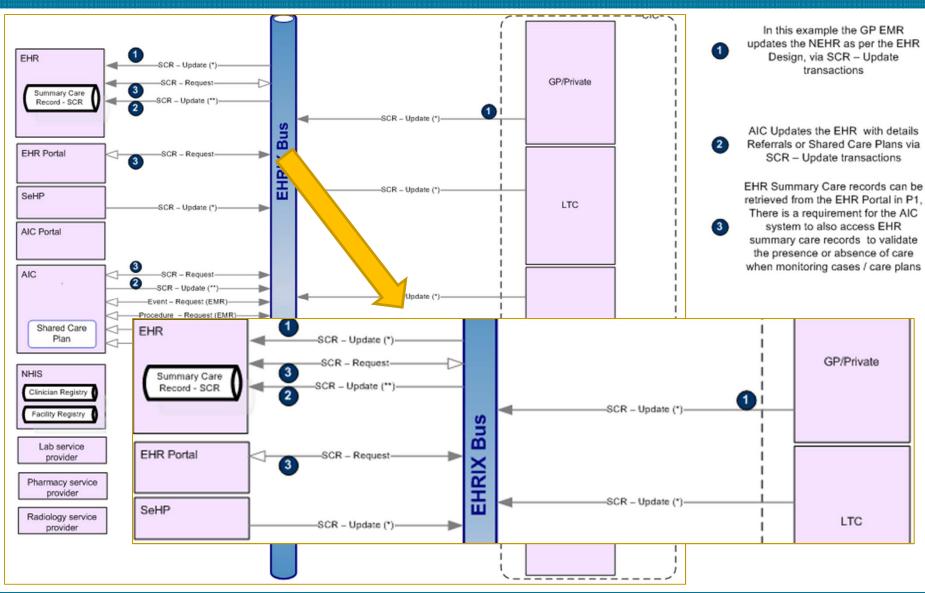
## **Extending The Business Capability Map**



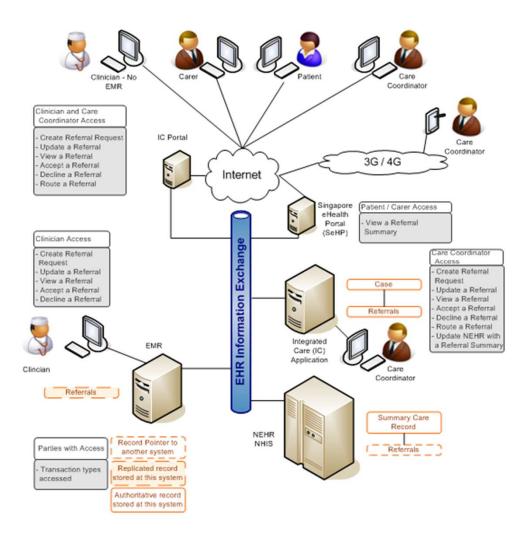
### **Extending The Architecture Framework**



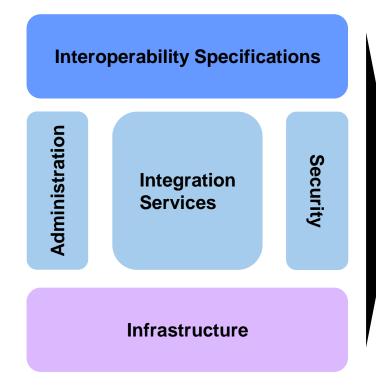
## **Updating The Information Exchange Requirements**



## Updating The Info Exchanges Access Patterns



### Benefits From Earlier Works.



#### e.g.

### Interoperability Specifications

Understand EHR information in a consistent manner.

### Integration Services

 Reuses & Refine capabilities EHR needs to provide

#### Security

 Apply information classification and ensure and conformance

#### Administration

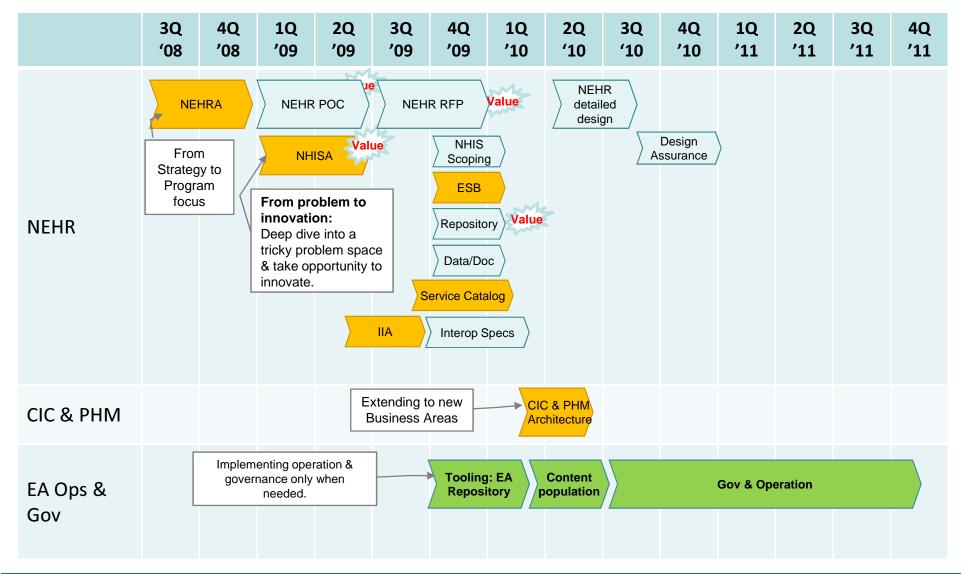
Adapts/adopts administration and operations

## Our Building Blocks Through Opportunities

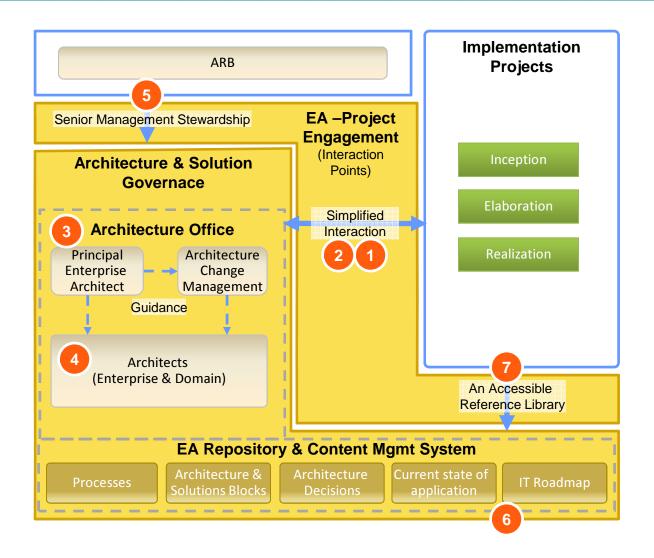
- Services catalog
- ☐ Inter-operability & Integration
- National Service Bus Architecture
- Data & Data repository Architecture
- National Health Identity Service
- Capabilities Catalog



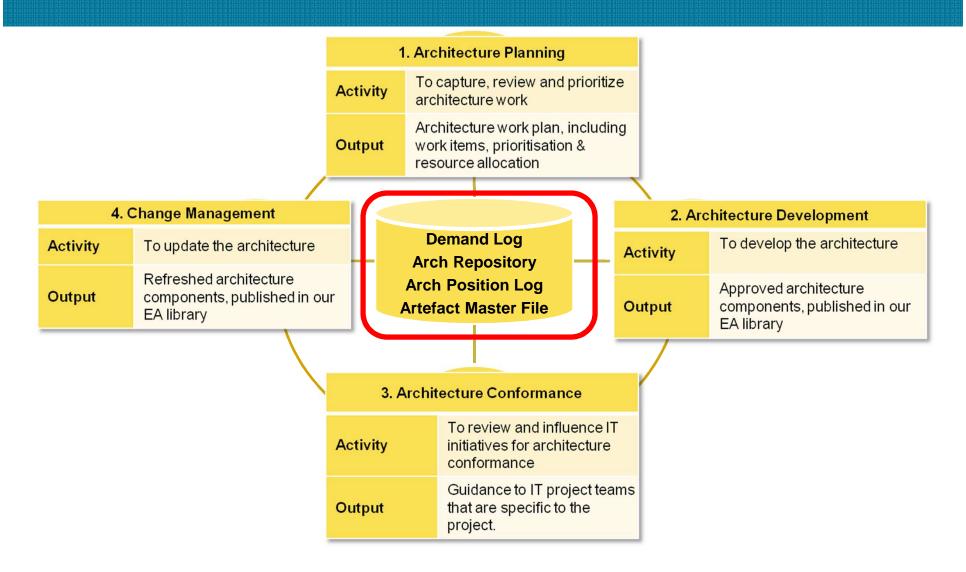
### "Operationalise" the EA practice



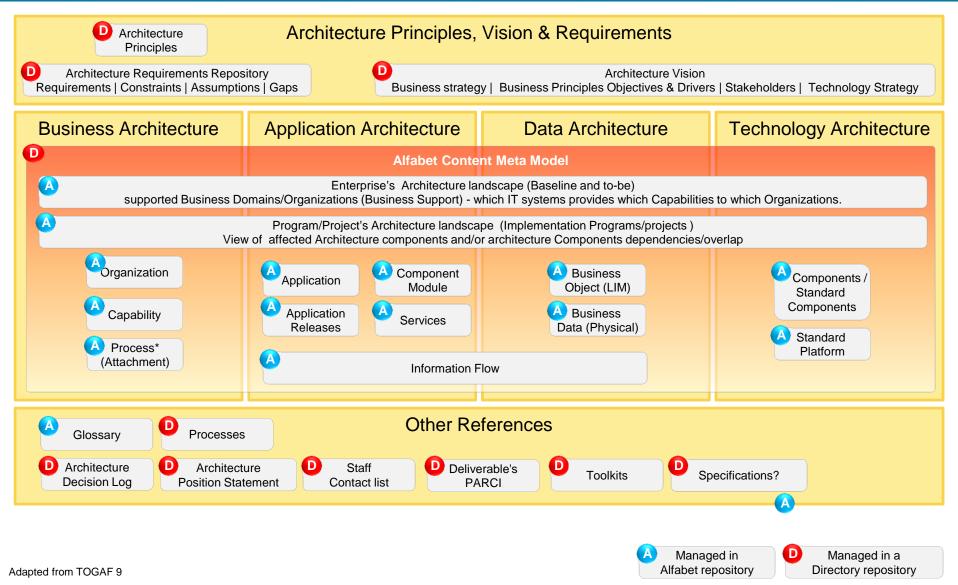
### Collaborative EA Governance



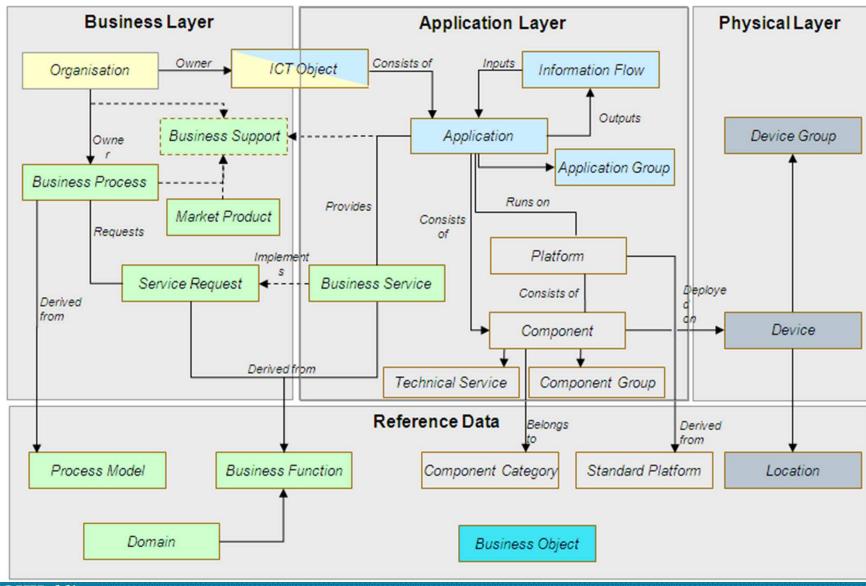
### Processes, Tool & Repository



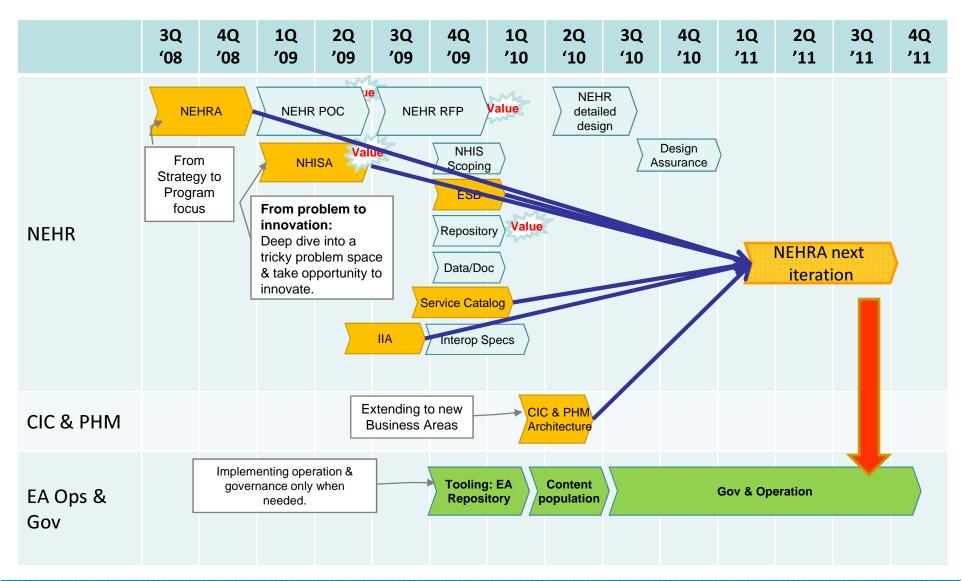
### **EA Repository Meta Model**

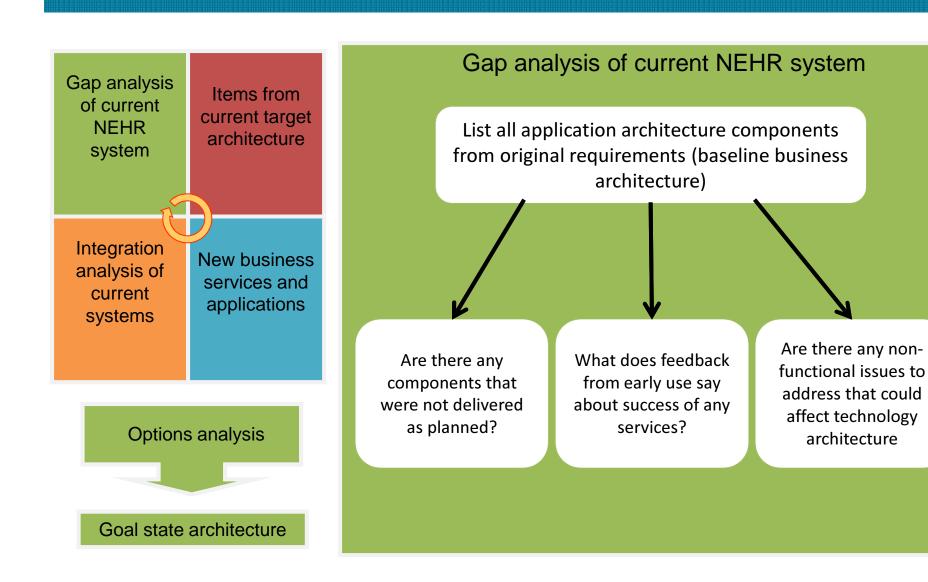


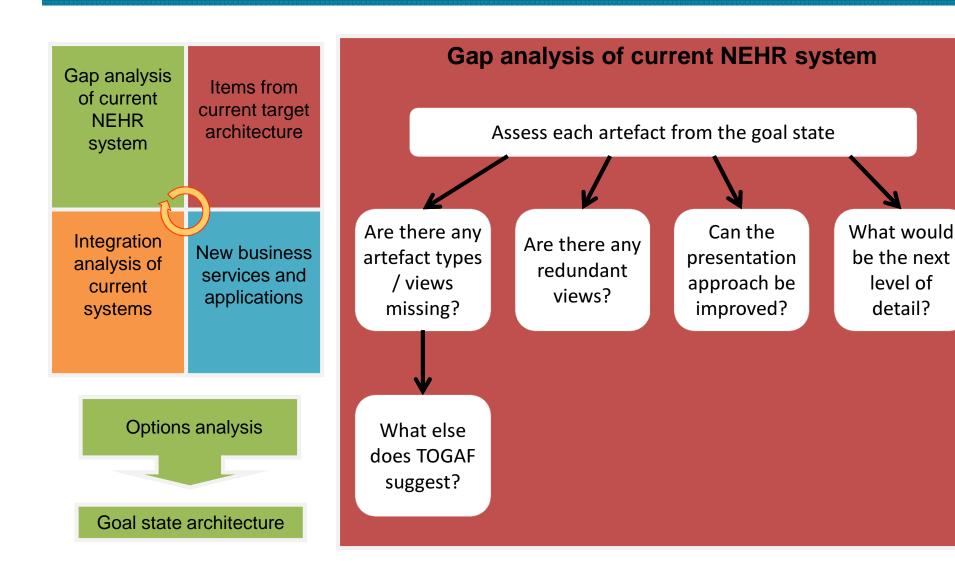
## Overview of EA Repository's Meta Model



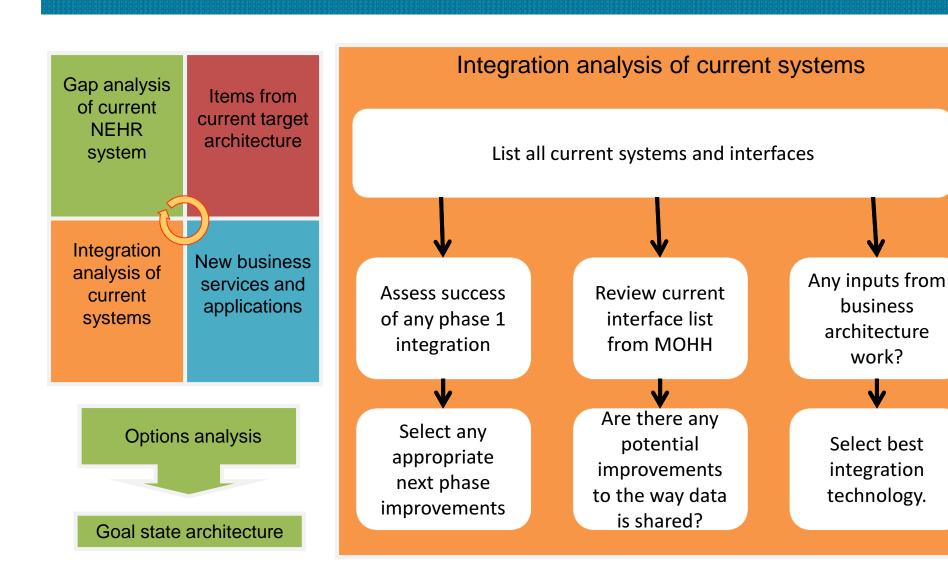
### What's Cooking...

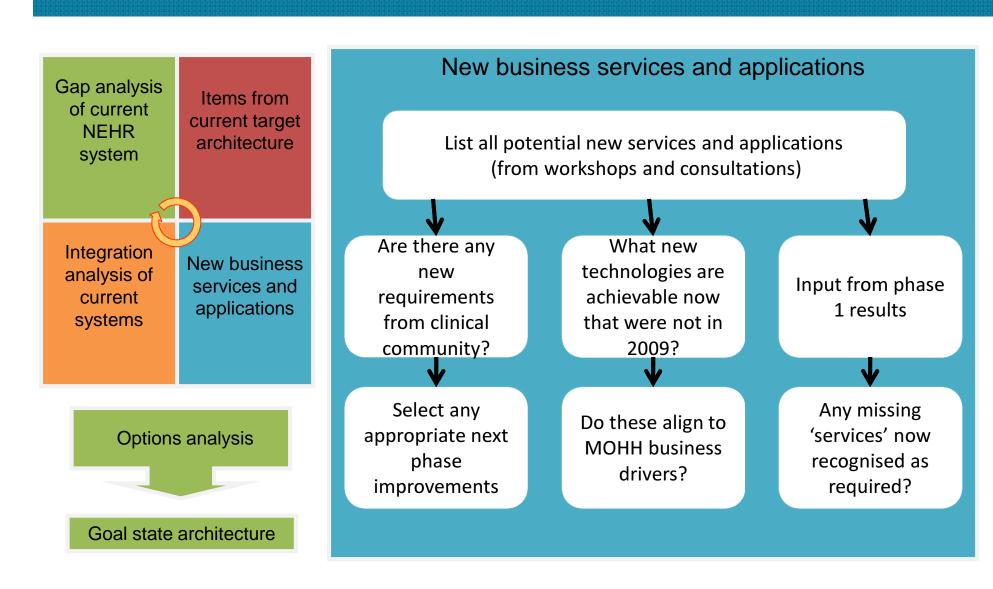




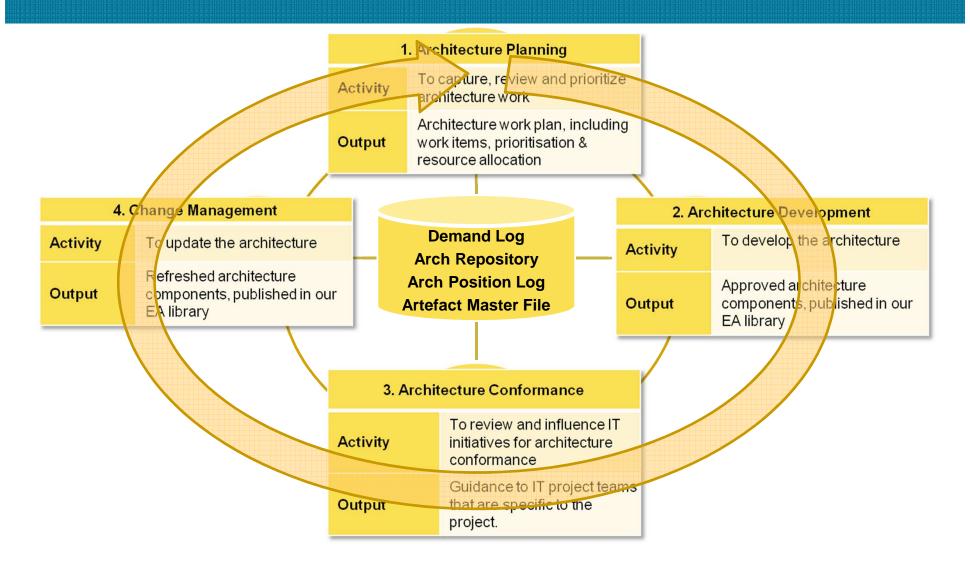


detail?





### Solidifying EA Process











































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## Thank you