

# ***MALAYSIA'S HEALTH : TRANSFORMING HEALTHCARE SERVICES THROUGH ICT***

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**INAUGURAL MEETING OF THE GLOBAL ALLIANCE FOR  
ICT AND DEVELOPMENT**

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# Overview

- **Strategic Direction**
- **Current Scenario**
- **Challenges in Health**
- **Health Service Goals**
- **Future Healthcare Delivery System**
- **ICT Strategic Plan**

# Overview

- **Issues & Challenges**
- **Lessons Learnt**
- **9MP ICT Way Forward**
- **Building Blocks**
- **Implementation Strategies**
- **Proposed Targets in 9MP**
- **Monitoring & Evaluation**

# Malaysia's Vision 2020

By the year 2020, Malaysia is to be a

- united nation with a confident Malaysian society
- infused by strong moral and ethical values,
- living in a society that is
  - democratic, liberal and tolerant,
  - caring, economically just and equitable,
  - progressive and prosperous, and
- in full possession of an economy that is competitive dynamic, robust and resilient.

# Malaysia's Health Vision

....one of the critical components to achieve  
Vision 2020

Malaysia is to be **a nation of healthy  
individuals, families and communities**

*Through A Health system*

- Equitable
- Affordable
- Efficient
- Technologically appropriate
- Environmentally adaptable
- Consumer friendly

*With Emphasis*

- Quality
- Innovation
- Health promotion
- Respect for human dignity
- Community Participation

*Towards*

an enhanced quality of life

# **National Mission 2006- 2010**

**5 thrust areas :**

- **To move the economy up the value chain**
- **To raise the capacity for knowledge and innovation and nurture “first class mentality”**
- **To address socio economic inequalities constructively and productively**
- **To improve the standard and sustainability of quality of life**
- **To strengthen the institutional and implementation capacity**

## **9 MP thrusts**

### **Towards Achieving Greater Health through Consolidation of Services**

#### **Primary Goals**

- **Prevent and reduce disease burden**
- **Enhance Health care delivery**

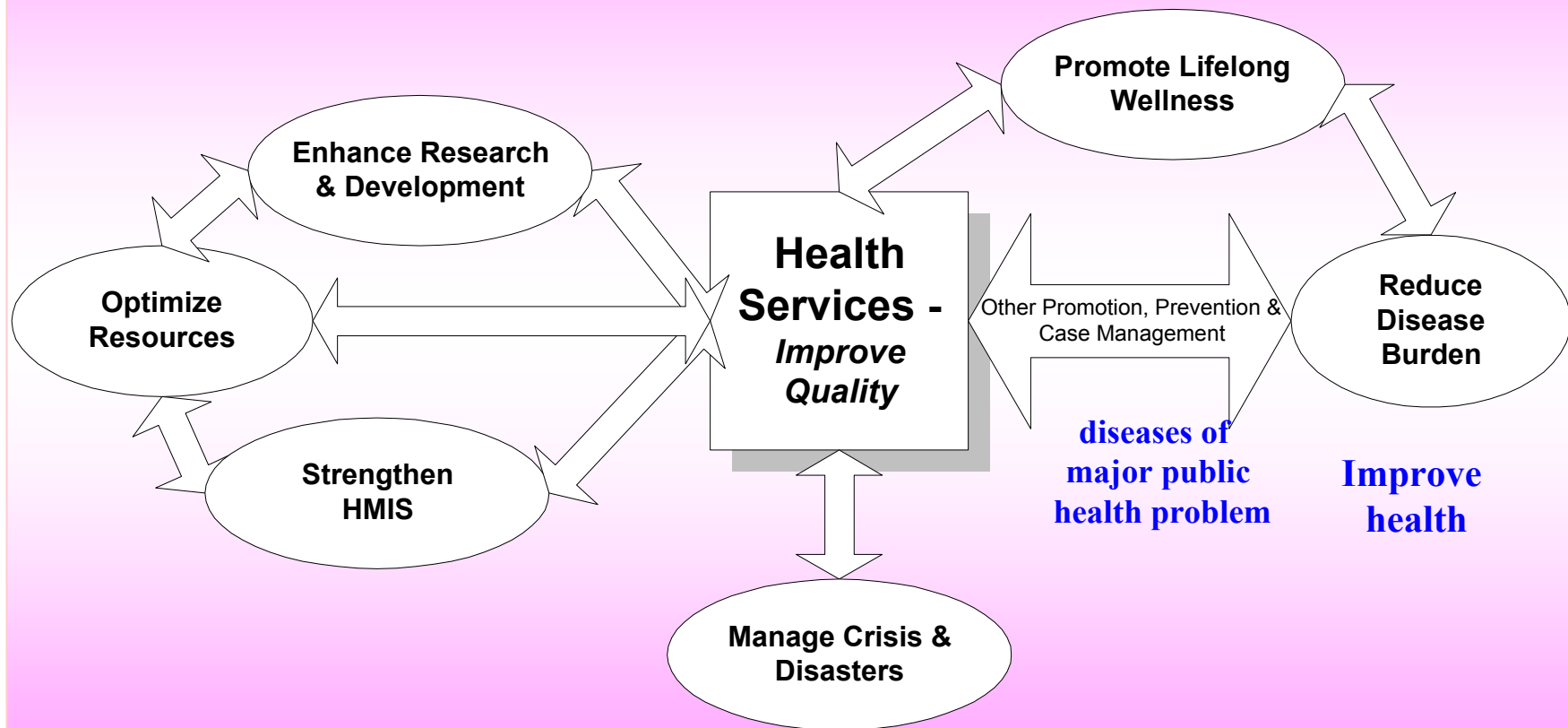
#### **Supporting goals**

- **Optimize Resources**
- **Enhance Research & Development**
- **Manage Crisis & Disasters Effectively**
- **Strengthen Health Information**

# How the 6 Goals Relate and Cause Change

## Organisational Goals & Changes

## Substantive Goals & Changes



Inputs

Processes

Outputs



# Goals of the Health System

Goals of Health Services	Description of Goals
1. Wellness Focus	Provide services that promote individual wellness throughout life
2. Person Focus	Focus services on the person and ensure services are available when and where required
3. Informed Person	Provide accurate and timely information and promote knowledge to enable a person to make informed health decisions
4. Self Help	Empower and enable individuals and families to manage health through knowledge and skills transfer

# Goals of the Health System

<b>Goals of Health Services</b>	<b>Description of Goals</b>
5. Care Provided at Home or Close to Home	Provide services into rural and metropolitan homes, health settings and community centres
6. Seamless , Continuous Care	Manage and integrate healthcare delivery across care settings, episodes of care and throughout life
7. Services Tailored as Much as Possible	Customise services to meet individual and group needs and special circumstances
8. Effective, Efficient and Affordable Services	Provide enhanced access, integration and timely delivery of high-quality services at reasonable cost

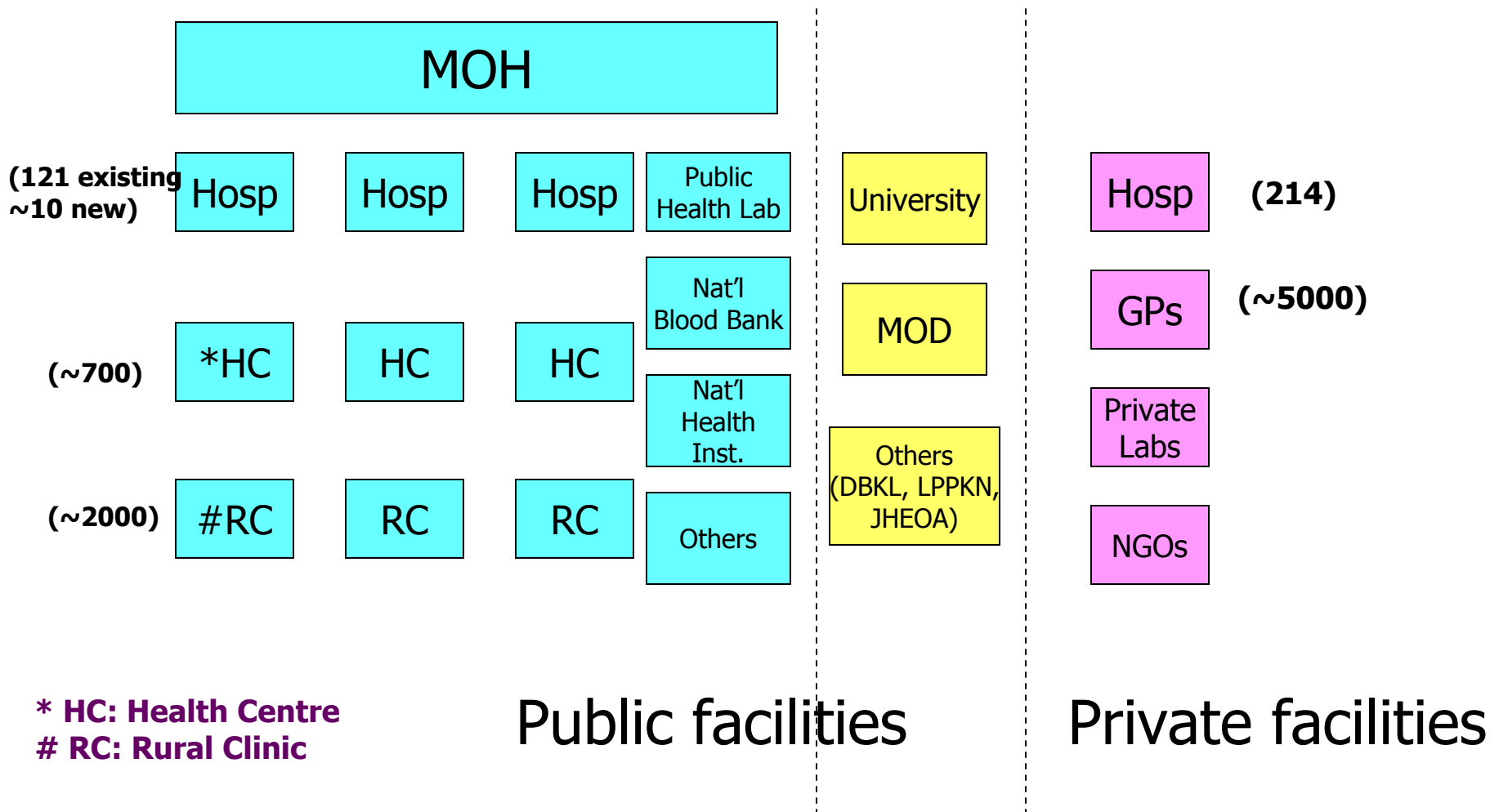
# Current Scenario

# HEALTHCARE IN MALAYSIA

- Regulated by a government body (MOH)
- Life expectancy : 70(M) & 75(F)
- Healthcare expenditure: 3.73% of GDP
- Doctors/ population : 1:1,474
- Primary Care :
  - Rural Clinics
  - Health Centres
  - GPs
- Secondary & Tertiary Care :
  - 127 Public Hospitals (32,000 beds)
  - 224 Private hospitals (9547 beds)



# MALAYSIA : Health facility infrastructure (public & private)



# The New Generation Hospitals



**H Putrajaya**



**H Selayang**



**Lobby H Ampang**



# The Primary Care Clinics and Health Centres



KLINIK DESA (LAMA) *Ulu Langat, Selangor*



PUSAT KESIHATAN (Lama) *Ulu Langat, Selangor*

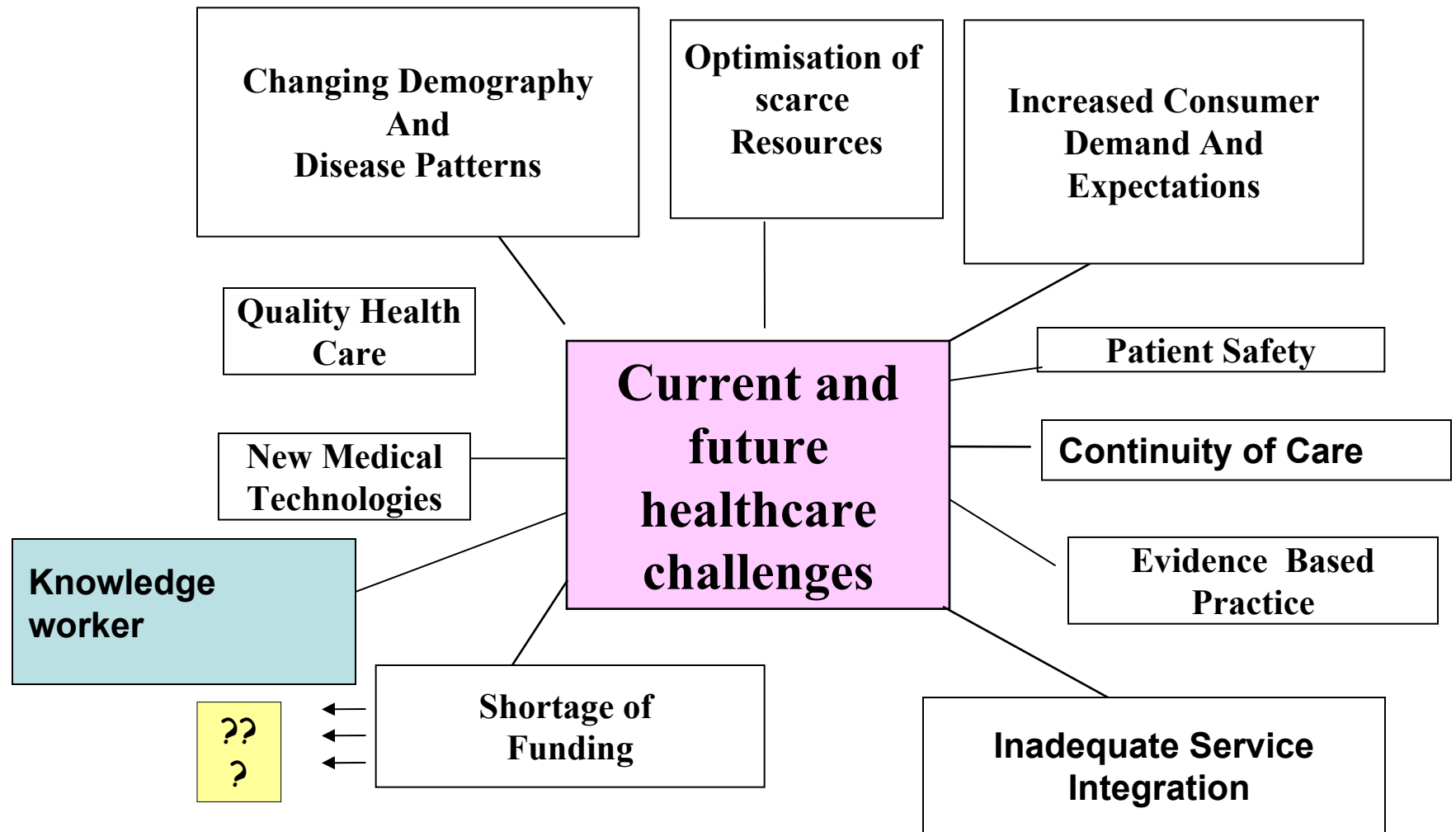


## **Current situation in healthcare – global perspective in IT and Development**

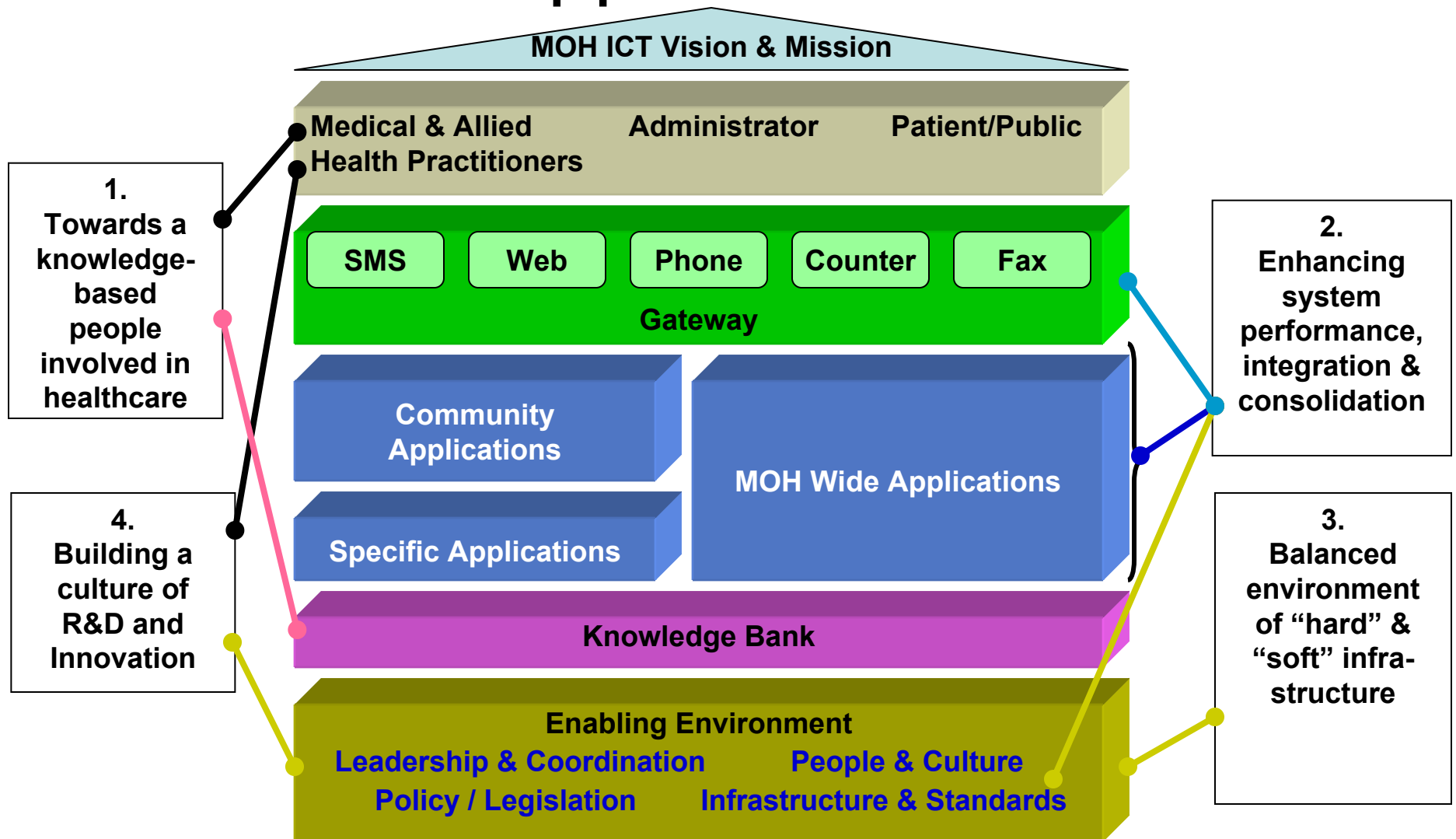
- **Fragmentation of health Information**
- **Duplication of health data / information**
- **Patient records not easily accessible at point of care**
- **Focus of IT on administration & finance, reporting**
- **Restricted access to specialist services in remote areas**



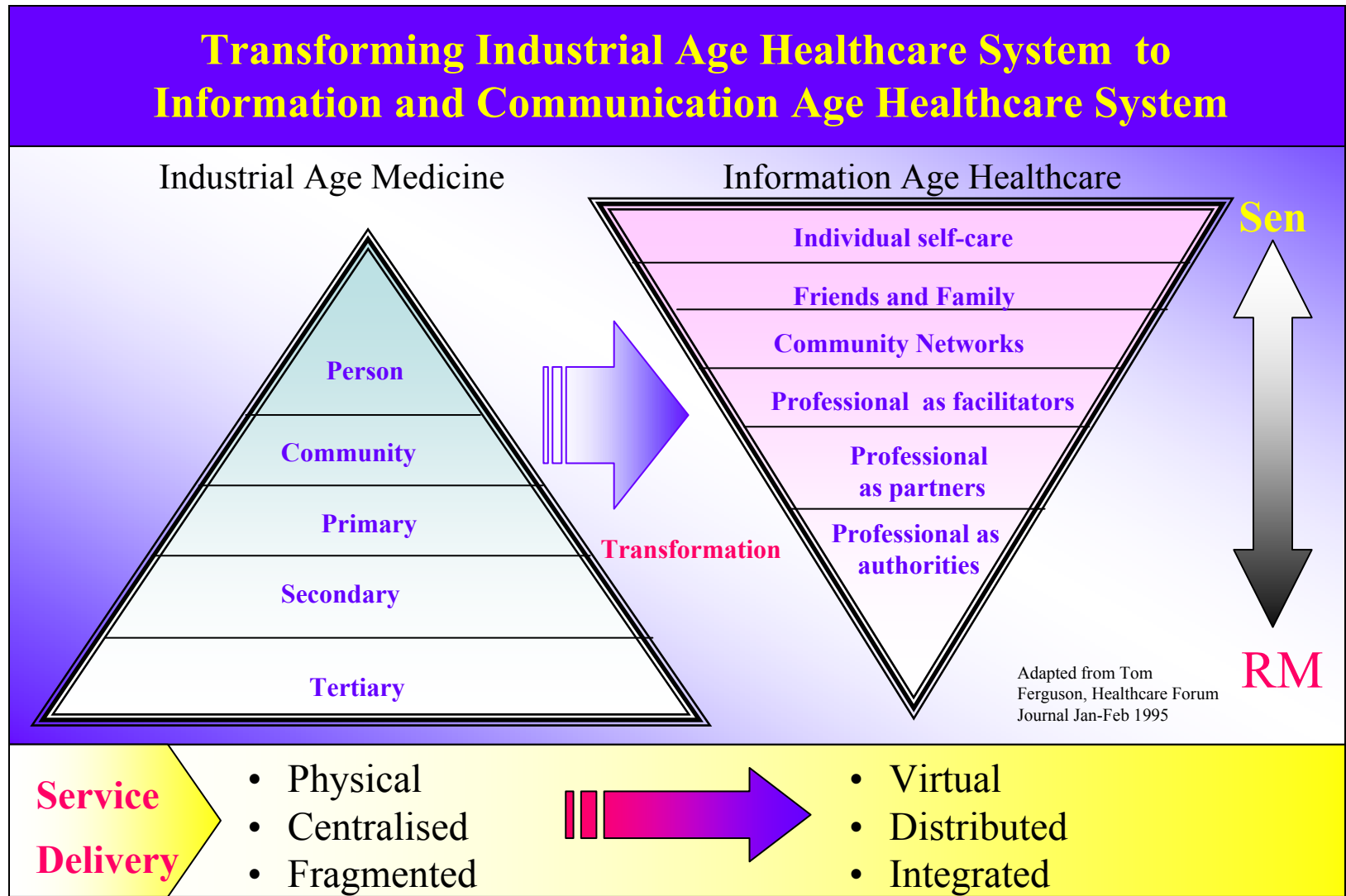
# Healthcare Challenges



# ISP – framework for the Opportunities



# Transforming the Healthcare System



# Transforming the Healthcare System

- The focus of the future healthcare system will be on *people and services*,
- Use technology as the *key enabler* to provide
  - an accessible, integrated, high-quality and affordable healthcare system that is
- Recognised as one of the world's best.

Malaysia's Telemedicine Blueprint, 1997

# Transforming the Healthcare System

- Change-management challenges
- Comprehensive change-management programme that addresses
  - healthcare organisation,
  - health model design / process reengineering,
  - people issues
  - healthcare financing.

Malaysia's Telemedicine Blueprint, 1997

# **Talking about Change.....**

## **.....Breaking through the BRAIN BARRIER**

**The future never just happens: it is  
created, with change...**

**Will and Ariel  
The Lessons of History**

# **Transforming the Healthcare System**

**Transforming from**

- **Illness to Wellness**
- **Facilities to Personalised Services**
- **Providers to People**

# Telehealth Services...

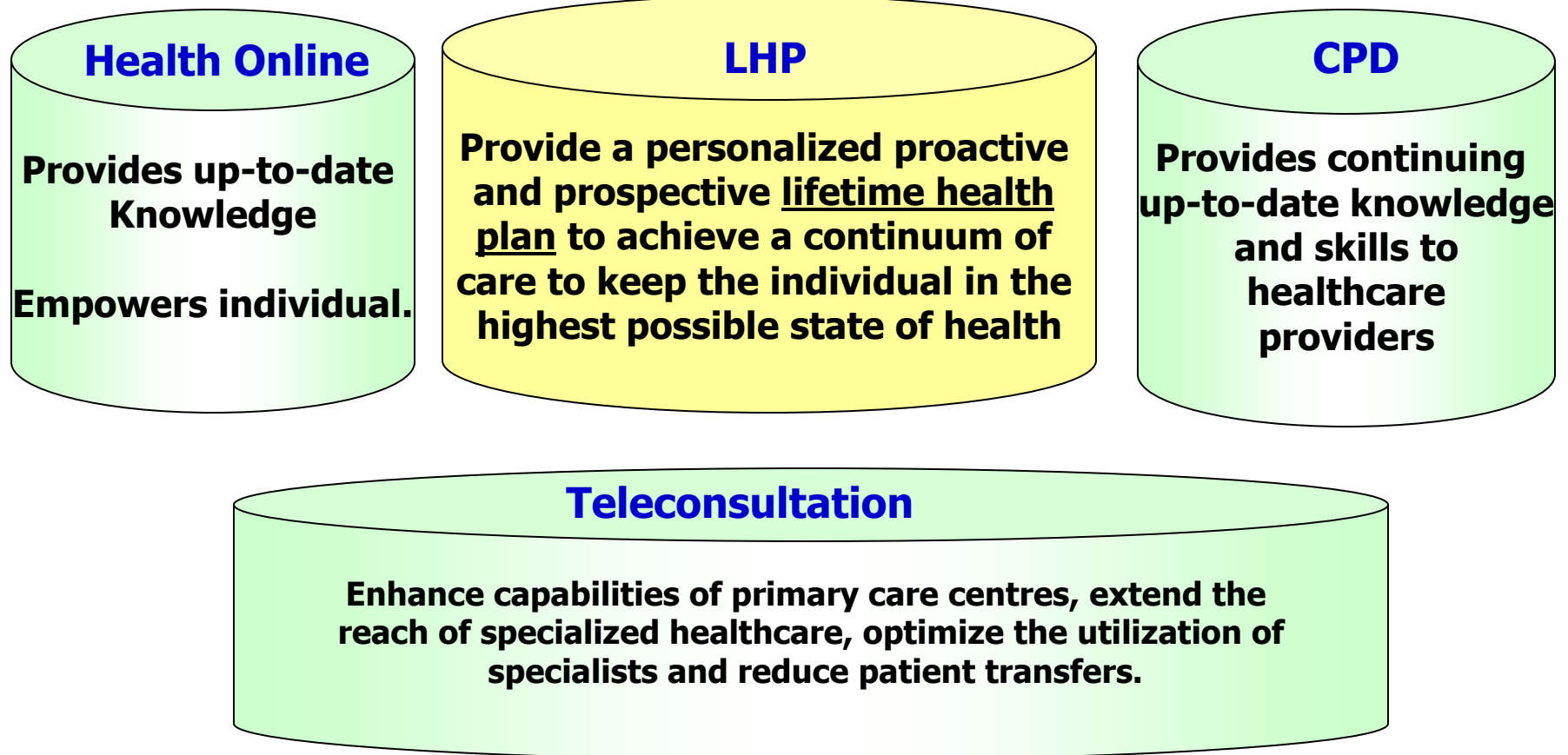
.....as an enabler in transforming healthcare in Malaysia and to achieve the **vision for health** “... a nation of **healthy individuals, families and communities....**”

In essence.....

**Telehealth initiatives must be able to support an existing or new healthcare service to achieve the *vision***



# Overview: Telehealth Project Components



# Integrated Telehealth Chart





**TELEPRIMARYCARE**  
Bringing Healthcare Closer To You



# ***What Is TPC<sup>TM</sup> ?***



## ***Teleprimarycare (TPC<sup>TM</sup>)<sup>TM</sup>***

- Healthcare management IT solution***
- Links primary to secondary health care (health clinics to hospitals)***
- Fully owned by Ministry of Health***

## ***Special Feature***

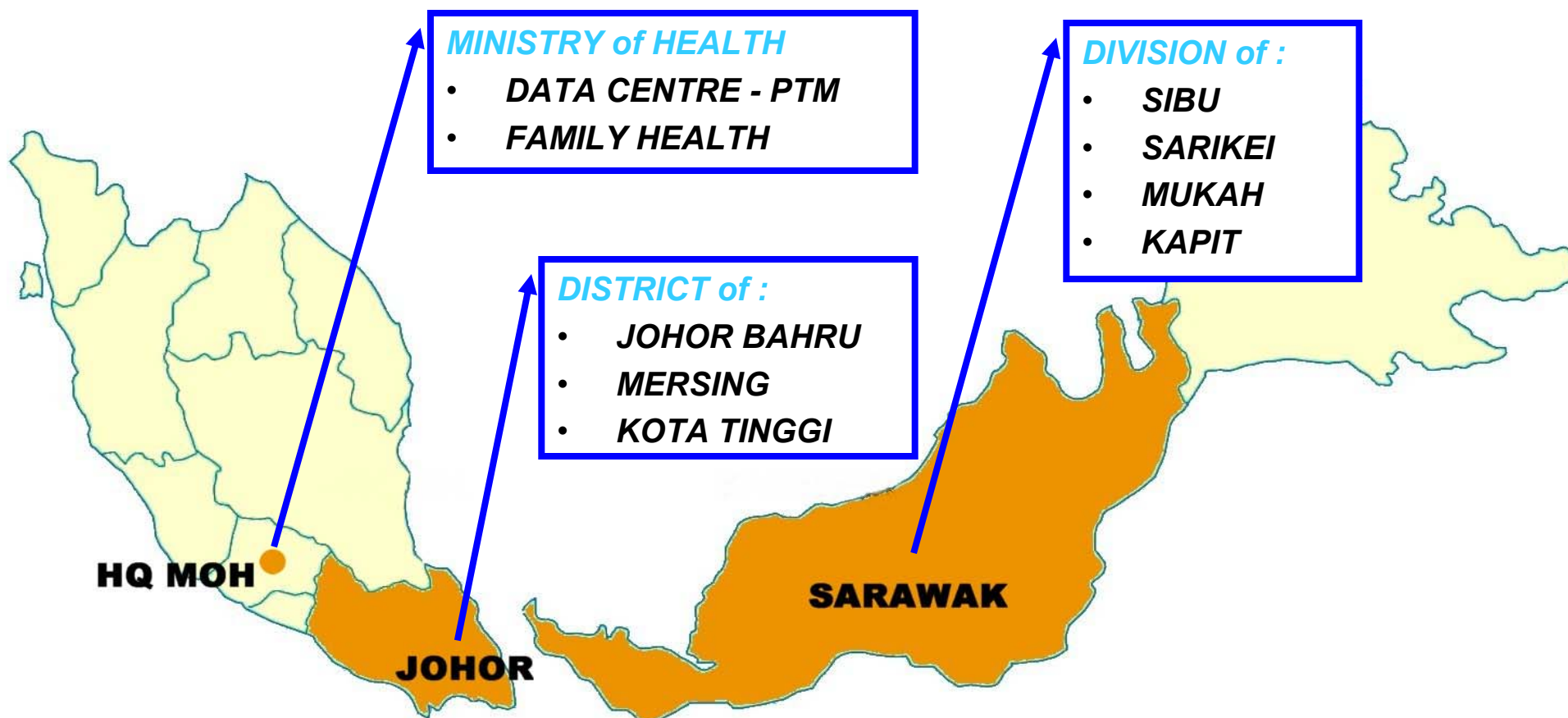
- Epidemiology module to facilitate public health functions***







# TPC<sup>TM</sup> Sites



**No of Sites : 56**

**HQ MOH** – HQ Data Centre - PTM (1), Family Health (1)

**JOHOR** – Hospital (1), Health Clinics (29), Health Office (3)

**SARAWAK** – Hospital (1), Health Clinics (17), Health Office (3)

## **The Future..**

**Focus on wellness &  
empowerment**

**Health system to support  
access to right information  
for right choices**

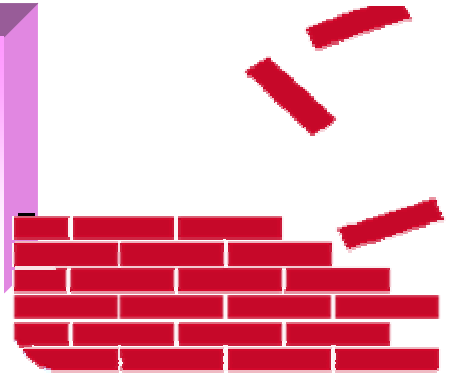
**Access to individual's health  
record to support continuity  
of care**

**Individual &  
Community  
responsibility for  
Health**

*ICT as an enabler .....*

- Health Sector ICT : Information Intensive Service
- Health Informatics : Managing an integrated health information through electronic means

# The Challenge.....



- ➡ **Identifying areas that would benefit most from E Health initiatives**
- ➡ **Integration & Interoperability**
- ➡ **Knowledge & Standards Development**
- ➡ **Empowerment of the Care Provider & Consumer**

# **IT and Development: Managing the Shift to Virtual Health Services**

- **Appropriate to achieve national healthcare vision and goals**
- **High quality in terms of content and delivery mechanism**
- **Cost effective in achieving healthcare outcomes compared to existing health services**
- **Integrated with and complementary to existing healthcare services and programme**



# **Integration and interoperability :**

## **Levels of integration**

- **Policy :**
  - **LHR shall provide seamless care**
- **Processes, protocols and clinical pathways :**
  - **BPR, SOP, CPG, care pathways**
- **Functionalities :**
  - **operational and system**

# **Integration and interoperability :**

## **Levels of integration**

- **Data :**
  - health data dictionary, data set, code set
- **Technical :**
  - HL7, IEEC, DICOM for connectivity
- **Services :**
  - provision of enterprise wide person management (at individual level) for life long wellness

# Health Informatics Standards

.....vital element for integration

## *Domain Standards*

- ❖ Business Functional Model & BPR
- ❖ Standard Operating Procedure
- ❖ Clinical Care Pathways
- ❖ Naming Convention /Vocabulary
- ❖ Data Sets and Code Sets
- ❖ Health Data Dictionary
- ❖ Facility Code Standards
- ❖ National Drug Database

## *Technical Standards*

- ❖ Messaging Standards
- ❖ Security Standards
- ❖ Database Schema Standards
- ❖ Network Design Standards
- ❖ System Architecture Standards
- ❖ Others

**Lessons learnt .....**

**The essence is.....**

**.....be practical**

# Lessons learnt .....

- **Scope:**
  - based on needs & capabilities
- **Timeline :**
  - phased implementation / realistic
- **Outcome measurement :**
  - performance indicators
- **Business model :**
  - public/private sector driven
- **Project Management**
  - Effective
- **Ensure relevant legislation, infra / infostructure and capacity building**

## **Current Implementation: Issues & Challenges**

- **Information Strategic Plan**
- **Defining Functional Scope / Business Case**
- **ICT Investment**
- **Operation & Maintenance**
- **Process Improvement**
- **Interoperability Standards**
- **Benefits Realisation Organisational Readiness & Change management**
- **Human Resource Planning**
- **Infrastructure & Technology**
- **Knowledge Creation & Management**
- **Project Management**

## **Lessons Learnt..**

- **Strong ICT governance at federal & state levels**
- **Prudent ISP to provide policy setting & direction**
- **Commitment to building Information Infrastructure**
- **Sound Foundations : Security, Standards, Process Change**
- **Critical Success Factor**
- **Acceptability, Affordability, Capability & Capacity**
- **Procurement to ensure benefits realisation**
- **Evaluation in terms of value creation**

# ***The WAY FORWARD for Malaysia***

## **Objectives :**

- ***Define Functional Scope & Business Case***
- ***Identify the Building Blocks***
- ***Infrastructure Requirements***
- ***Resource Implications***
- ***Implementation Plan***



## ***Expected Health Services Outcome***

- *Empowerment to individual community in the management of his/her health*
- *Rapid & reliable access to health information*
- *Access to JIT information to care providers*
- *Provision of online services*
- *Efficient & effective organisational management*
- *Establishment of Group Data Services*

## **Building Blocks.....**

- **National Health Informatics Standards**
  - **Function**
  - **Nomenclature**
  - **Data Dictionary**
  - **Data Sets & Data Elements**
  - **Code Sets**
- **Infostructure**
- **Infrastructure**
- **Resources**

## **Implementation Strategies.....**

- **Improve capability in network & technology**
- **Creation of ICT enabled facilities**
- **Provision of on-line services for healthcare providers & customers –**
  - **Health on line portal : MyHEALTH**
- **Development of standards :**
  - **NHDD**
- **Strengthen human resource capacity & capability**
- **Foster research development & best practice in use of IT**
- **Support population health monitoring & surveillance**
- **Support MOH Management Programme**

## **Proposed 9MP Targets.....**

- **Infrastructure**
- **Telehealth Services**
- **Establishment of IT Enabled Facilities**
- **Enhancement & Establishment of Monitoring & Surveillance Systems for various Programmes**
- **Human Capacity & Capability Building**
- **Legislation & Regulation**

## **Establish IT Enabled Facilities.....**

- **Hospital & Clinic Information Systems**
- **Consistent with “Care Concept Network”**
- **Integration to other systems :**
  - **MyKad/MyKid**
  - **LHR**
  - **SPPD/SPPL**
  - **HRMIS**
  - **HIMS**
  - **CDCIS**
  - **Teleconsultation**
  - **CPD, Virtual library, and Modular Distance Learning**
- **Access to JIT knowledge**
- **Decision Support Capability**

# Targets

## Reporting & Surveillance Systems: Enhancement & Establishment

- **Communicable & Non-communicable Disease:**
  - **Early Warning System**
- **Disease Registry**
- **Water Quality & Safe Drinking Water**
- **BAKAS**
- **Environmental Health Engineering**
- **Hospital Support System**
- **Food Safety & Quality:**
  - **FOSIM**
  - **Certification Programme**
- **Health Information Management:**
  - **Integrated HIMS**
  - **Data Warehouse**
  - **Health Informatics Centre**

# **Monitoring & Evaluation.....**

- **Organisation Committee**
- **Organisation Structure**
- **Technical; Safe, Secure, Accurate & Reliable**
- **Benefit Realisation**
  - **Accessibility: efficiency, cost effective**
  - **Acceptability: end users, patients, managers**
  - **Patient Safety: Medication errors, accurate capture of data**
  - **Decision Support: JIT CME, CPD, Care pathways**
  - **Data Mining : Access to structured reporting, accuracy & integrity**
  - **Improve Management : Work process, Accuracy of procedures & documentation**
  - **Impact : Use of Health Services, Perception of healthcare delivery services, Health Status**

# Conclusion...

- The global concept has changed the paradigm of health care delivery
- Telehealth concept is the approach to realise Malaysian Health Vision.
- Enterprise-wide health info structure is necessary
- ICT enabled healthcare facilities shall be developed



***However .....***

***.... The biggest challenge however lies in  
providing leadership & direction and  
ensuring the necessary building blocks  
are in place.***



*.....Thank You*