

# Ministry of Health and Population Egypt



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# Without planning





# IT Environment

Disease Surv.



HIS, EIS



GIS



Apps



Data Center

Health Unit



Licensing



Training Center

# PROJECTS

137

Call Center & Crisis Room

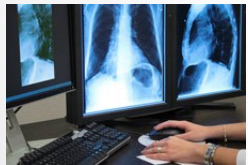


IP Phone

Laboratory



National PACS



# SYSTEMS

National Information Center For Health and



E-Gate



Surveillance



Population

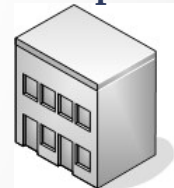


WAN



Internet Services

Hospital



Woman Health



Pharmaceutical



Ambulance



Blood Bank



Medical Council



Don't be panic





# MOHP's Business Vision

## Five foundation pillars of the MOH Business vision for Healthcare

Health Insurance for all citizens

- Health insurance will be provided to all Egyptians

Quality Improvement

- Significant efforts would be put in to ensure Total Quality Management

Sustainable funding

- To enable quality service delivery, sustainable funding would be assured while ensuring regular monitoring and tracking

Public private partnership

- Public Private partnership would improve quality through competition and provide wider coverage of health services

Consumer protection

- Technology will enable enforcement of consumer protection in the areas of food, drug and health safety



# MOHP's IT Vision

**MOH's IT Vision spans across information, application, infrastructure and people management**

## Information Management

- Centralized
- Integrated
- Process centric
- Performance oriented

## Infrastructure Management

- Flexible Architecture
- Well Planned Infrastructure
- Streamlined IT Operations
- Sustainable IT

## People Management

- Well defined IT Governance Model
- Application Ownership
- Stakeholder Management
- Vendor Management
- Human Capacity Development

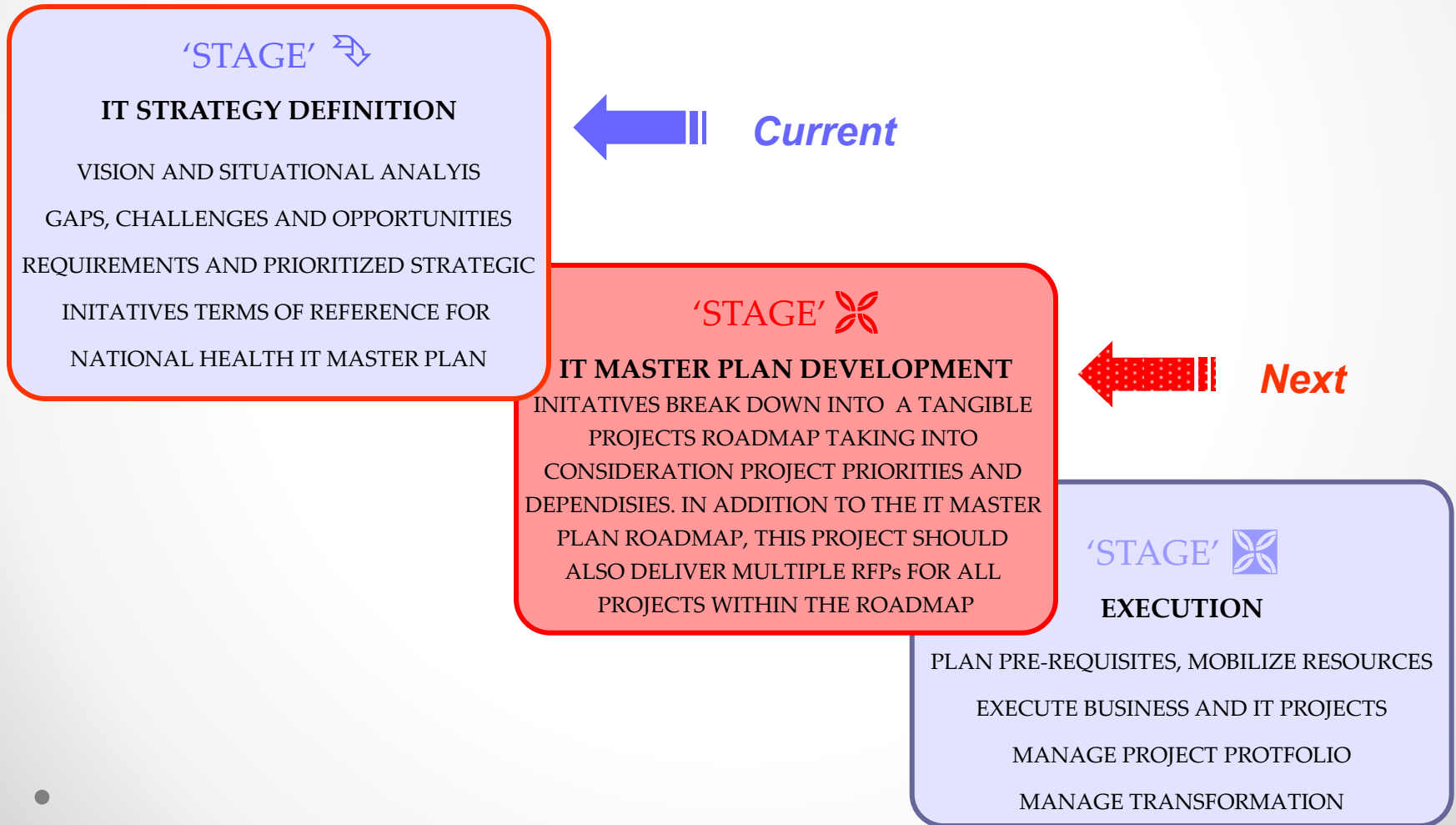
**Transactional, Decision Support & Executive Information System**

**Applications Management (at three layers)**



# IT Master Plan Full Journey

Ministry of Health embarks on its journey towards national health IT reforms through three stages of National Health IT Master Plan FROM STRATEGY THROUGH PLANNING TO EXECUTION AND CONTINUOUS IMPROVEMENT



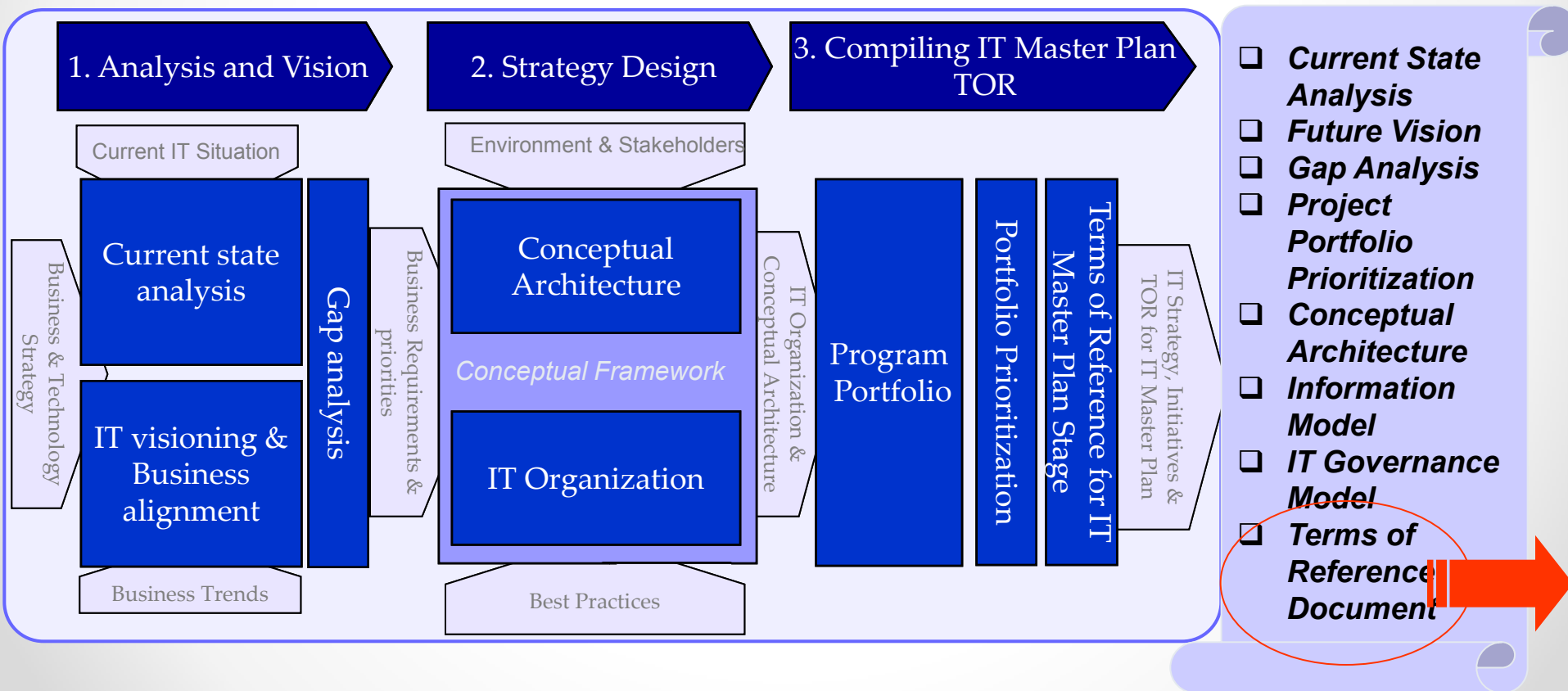


# IT Strategy Definition Stage

IT Strategy Definition Stage defines strategic direction to bridge the gaps between current state and future vision for IT at MOH

## IT Strategy Definition Stage - Key Activities

## Key Deliverables







# IT Strategy Definition Stage

The Terms of Reference (TOR) document for IT Master Plan Development Stage clearly describes the requirements from the next vendor

## ❑ TOR Main Contents

- Table of Contents
- MOH Overview
- Approach and Objectives (Full Journey)
- IT Master Plan Development Project Scope
- IT Master Plan Development Key Deliverables
- Vendor Technical Proposal Structure
- Vendor Technical Evaluation Criteria

## ❑ Appendices

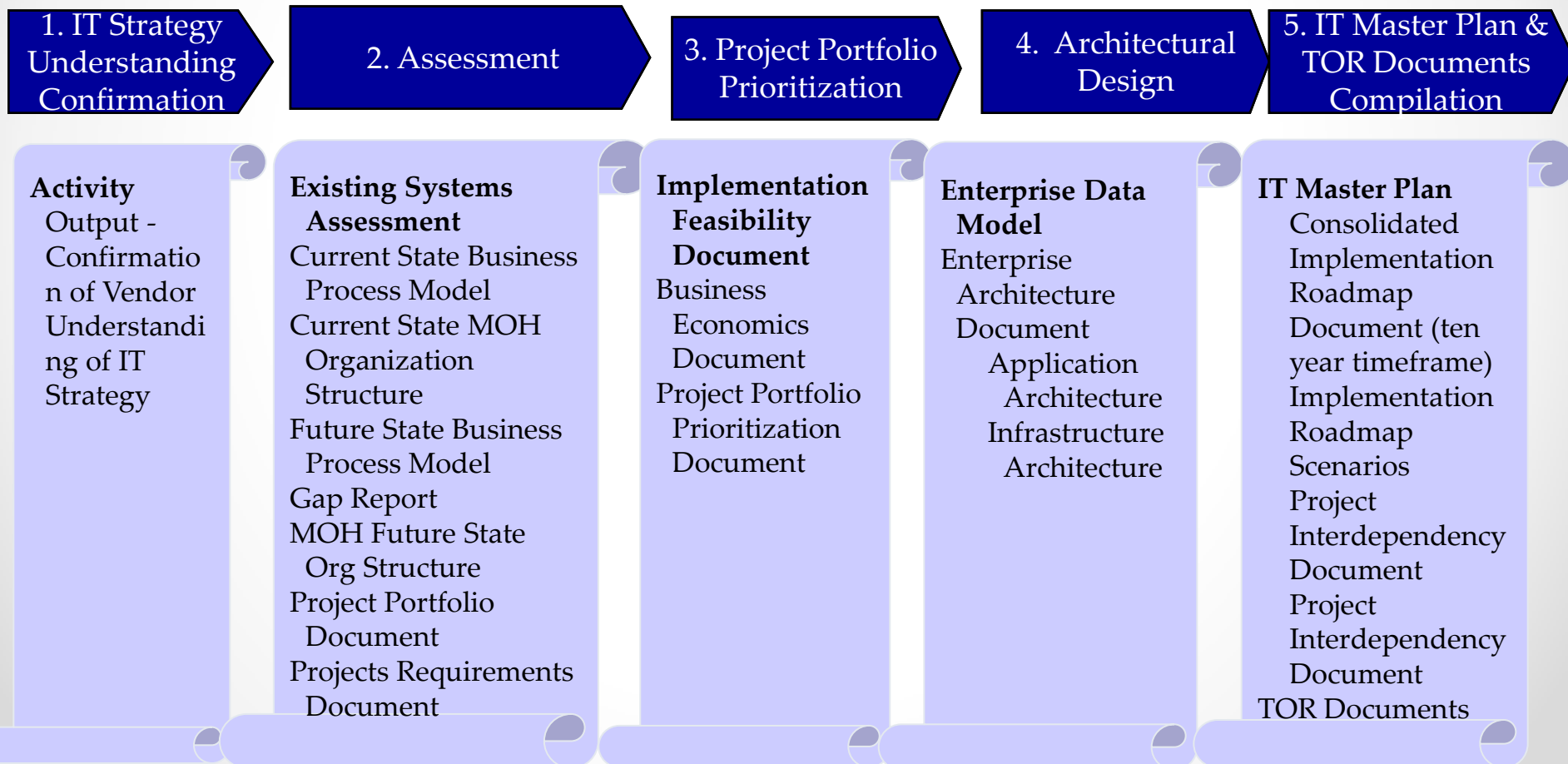
- MOH Vision
- MOH Current Situation Analysis
- Future State Requirements
- MOH IT Strategy
- Additional Information to be provided by MOH to the vendor of choice
- Glossary
- MOH Contact Details



# IT Strategy Development Stage

The development of IT Master Plan will unfold through five phases with help of multiple deliverables

## IT Master Plan Development Stage - Key Deliverables



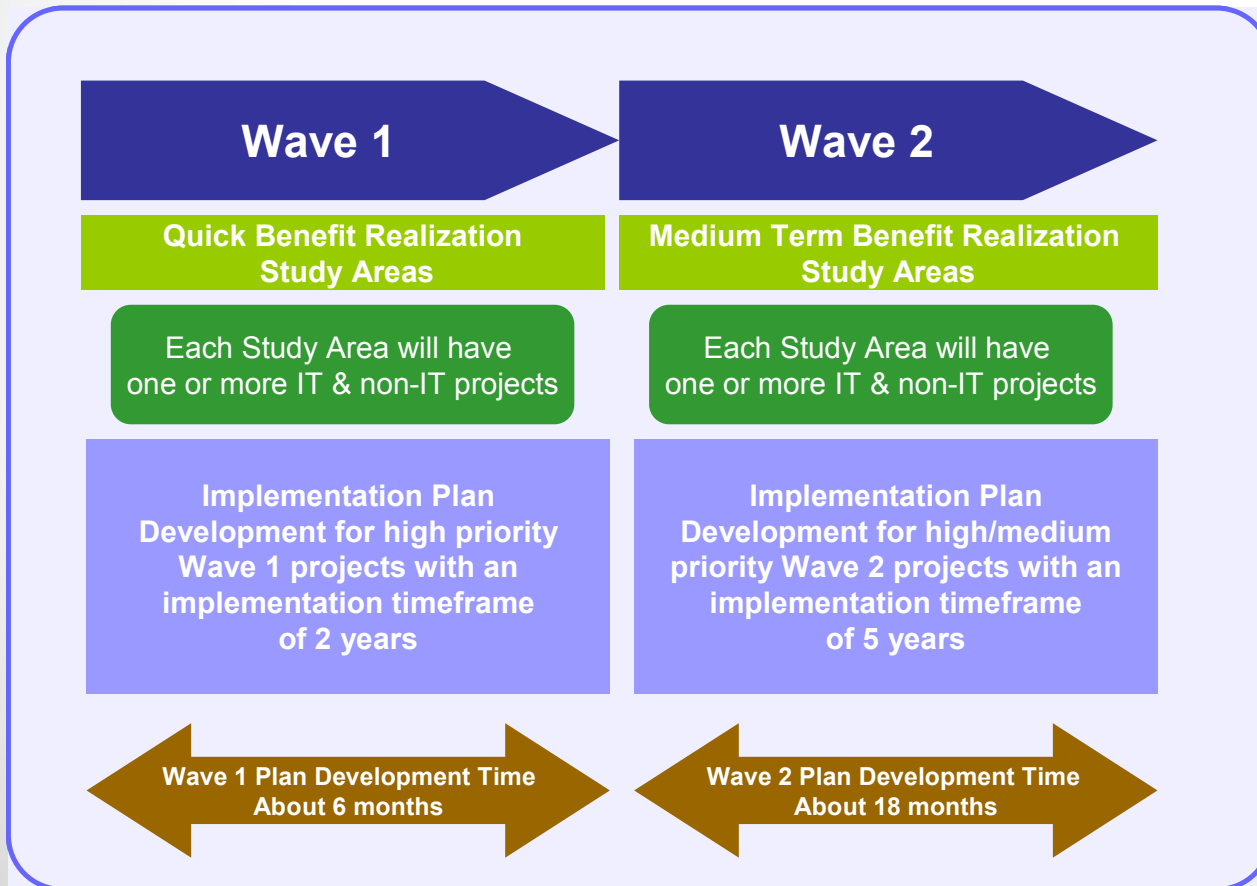
# Appendix 1

Recommended Two Waves Approach for  
IT Master Plan Development & Execution



# Development of implementation roadmap

During the IT Master Plan Project development of implementation roadmap should happen through two waves



## Benefits of Two Wave Approach

If two wave approach is not used, MOH will have to wait for 2 years for IT Master Plan before first implementation starts

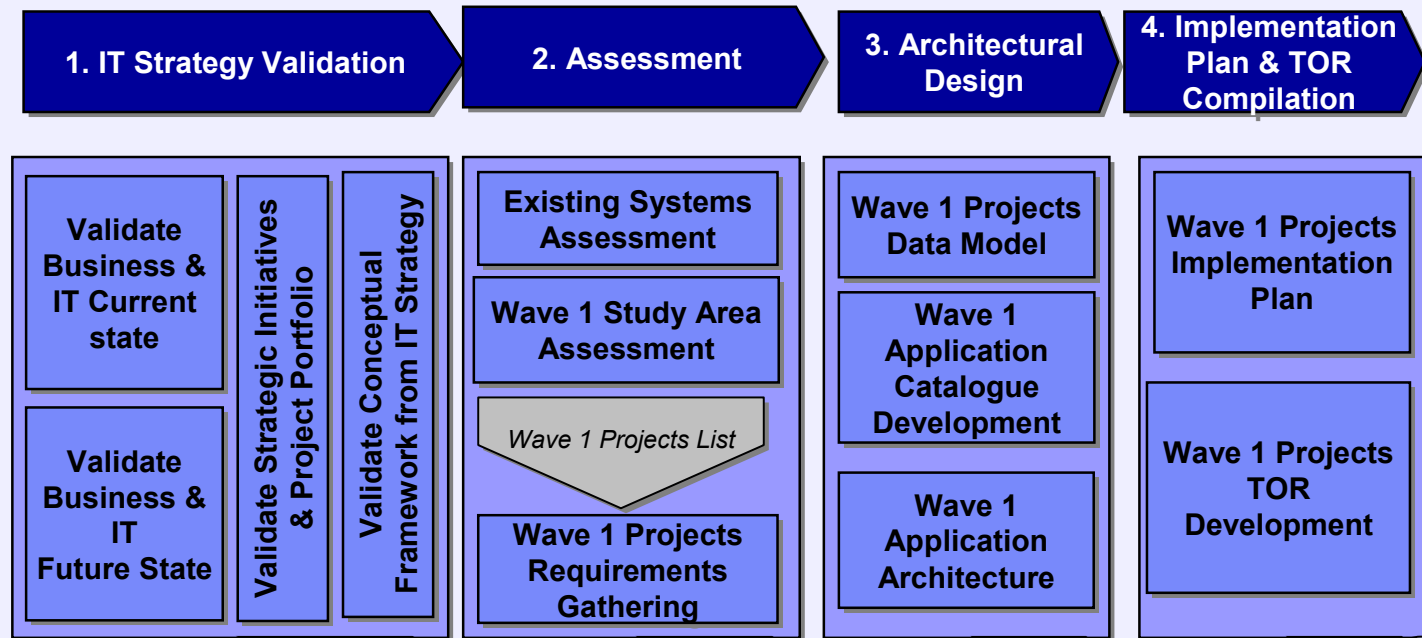
Wave 1 provides a fast track approach for high priority projects that can show quick results in patient satisfaction, insurance processes & back office efficiency

Wave 2 implementation plan development can happen in parallel with Wave 1 projects implementation

Learning from Wave 1 implementation can be plugged into Wave 2 implementation plan

During Wave 1, implementation plan is developed for high priority quick win study areas and the IT & non-IT projects that can be implemented in first two years timeframe

### Key Activities



### Key Deliverables

- Existing Systems Analysis
- Wave 1 Projects List
- Wave 1 Data Model
- Wave 1 Application Catalogue Document
- Wave 1 Application Architecture
- Wave 1 Projects Implementation Plan
- Terms of Reference Documents

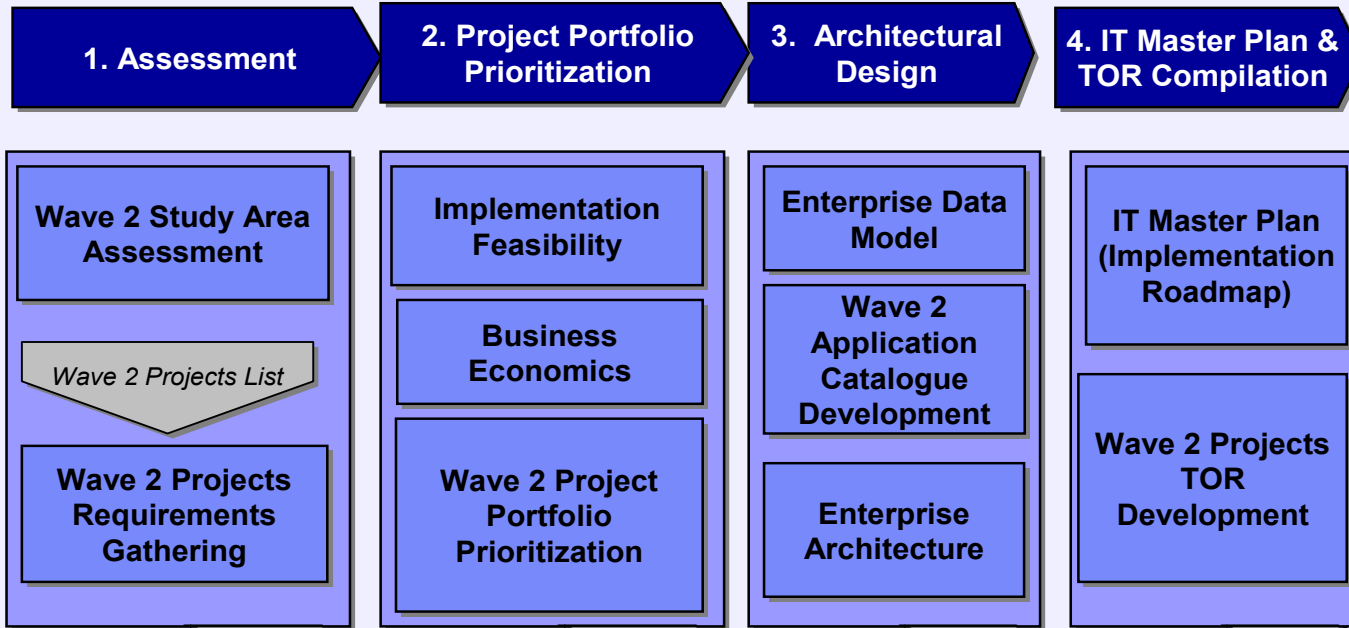
Wave 1 Study Areas

IT Organization and Governance:  
 Patient Facing Process Automation:  
 Health Insurance:  
 Back-office process automation:

IT Governance Model  
 Patient Access and Finance, Ambulance Management  
 Beneficiary Management, Claims Management  
 Enterprise Resource Planning, Collaboration tools

During Wave 2, comprehensive IT Master Plan will be developed for high/medium priority study areas and IT & non-IT projects that can be implemented in five years timeframe

### Key Activities



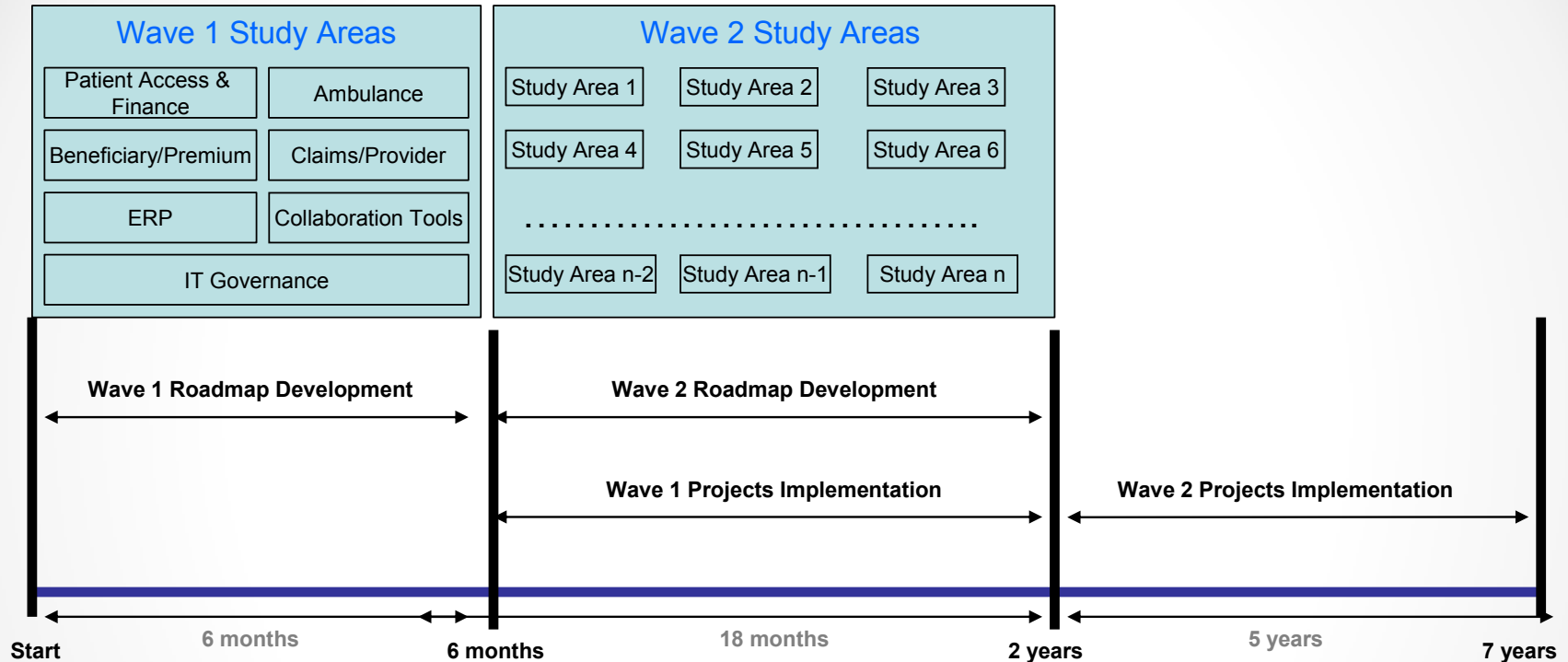
### Key Deliverables

- Wave 2 Projects List
- Implementation Feasibility Document
- Business Economics Wave 2 Projects Prioritization Document
- Enterprise Data Model
- Wave 2 Application Catalogue Document
- Enterprise Architecture
- IT Master Plan
- Terms of Reference Documents

Suggested Wave 2 Study Areas (Next vendor & MOH may add more areas to this list)

|                                  |                              |
|----------------------------------|------------------------------|
| Clinical Management              | Regulatory Control           |
| Management Information Reporting | Quality Management           |
| Ancillary Management             | IT Infrastructure Management |

## During the execution stage the IT projects will be implemented as per the IT Master Plan through two waves of execution



Simultaneous Wave 2 Roadmap Development & Wave 1 Implementation saves MOH 18 months of time  
Wave 1 projects will start showing quick benefits in terms of patient satisfaction, insurance processes & back office efficiency

Wave 1 projects will also help in improving process and people readiness for larger portfolio of Wave 2 projects  
Success of Wave 1 projects will develop a strong case for investment in Wave 2 projects

Note: Timeline in the diagram is not as per scale

## Appendix II

IT Strategy Definition Stage Value  
Strategic Value Addition



# IT Strategy Definition sets a platform for the Planning & Execution stages and adds strategic value to MOH

## IT Business Alignment

|   | Business Implications   | IT Implications   |
|---|---|---|
| Health Insurance for all citizens                                       | Standardized identifier for all citizens  | Beneficiary Management System (Unique Citizen Identification Number, enrollment, administration, family doctor info, claims records)  |
|   | Documentation/recording of health & insurance information for all citizens in a single, unified system  | Provider Management System (provider mgmt, reimbursement mgmt, provider performance, provider services, Electronic Medical Records)   |
|   | Financing entities should be organized to provide coverage according to the social & medical status of the citizens (Premiums, co-payments and out of pocket expenditure) | Claims Management System (eligibility, claims submission, processing, fraud mgmt, claims reimbursements, pre-approval reimbursements) |
|   | Premiums to be collected for each citizen from salaries, employer contribution, government contribution, school fees, etc based on social & medical status                | Funds Management System (budgeting, collection, deployment, asset mgmt, insurance guidelines)   |
|   | All providers who participate in health insurance scheme would have to be accredited according to the health insurance guidelines   | CRM (Customer Relationship Mgmt) with call center mgmt  |
|   | The results of accreditation would be made available to the public through common media to enable them to choose the best provider  | Healthcare Delivery Solutions (EMR, HMS, GIS, LIS, RIS, Emergency Mgmt Service System, PACS, etc.)                                    |
|   | Claims management process will have to be created as medical service delivery would happen at multiple levels – private, governmental medical service delivery centers    | Web portal  |
| Medical records confidentiality and privacy would have to be maintained | Accreditation Management System   |   |

Aligns the IT goals to MOH business goals to ensure effective results from IT justifying investments

## CBM - One Page View of MOH

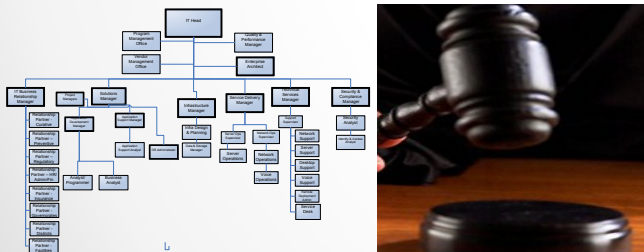
Provides MOH with one page functional view with different accountability levels and can act as a functional guide for MOH

## Gap Analysis with Business Impacts

| Business Challenge  | Business Impact   | Recommendations  | Business Benefits  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>Patients not uniquely identified</li> <li>Comprehensive view of patient medical treatment and prescription history unavailable</li> <li>Scheduling of appointments unstructured/unorganized</li> <li>Breakdown of services by service area unknown</li> <li>Advise medication and treatment events incidence unknown</li> <li>Turnaround time of medication orders unknown</li> <li>Turnaround time of test/exam unknown</li> <li>Unit cost of care unknown</li> </ul> | <ul style="list-style-type: none"> <li>Duplicate medical social creation</li> <li>Care decisions unformed</li> <li>Treatment delayed</li> <li>Patient safety decreased</li> <li>Duplicate test/exams ordered</li> <li>Test/exam results unavailable</li> <li>Visit time sufficient</li> <li>Multiple follow up visits needed</li> <li>Services and providers not targeted to need</li> <li>Unable to predict resource allocation</li> <li>Services needed, budgetary needs</li> <li>Care delivery cost increased</li> </ul> | <ul style="list-style-type: none"> <li>EMPI Hospital Management System</li> <li>Practice Management System</li> <li>Auxiliary Systems</li> <li>Completed Maintenance Management System</li> <li>Blood Bank Management System</li> <li>Ambulance Management System</li> <li>Decision Support System</li> <li>ESD System</li> <li>Clinical Trials Management System</li> </ul> | <ul style="list-style-type: none"> <li>Safe patient care</li> <li>Appropriate patient care</li> <li>Cost-effective patient care</li> <li>Valid forecast of resource, services and cost expenditures</li> <li>Staffing levels appropriate to need</li> <li>Visit time focused and efficient</li> <li>Need for follow-up visits reduced</li> <li>Care delivery cost decreased</li> </ul> |

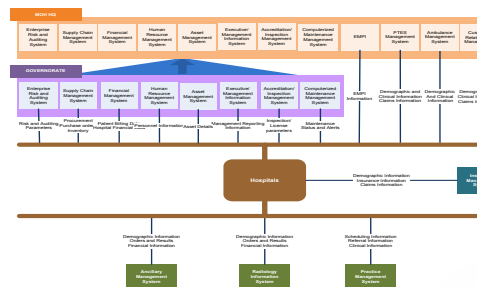
Provides analysis of business challenges and their business impact, IT recommendations and their business benefits

## IT Organization Structure & Governance



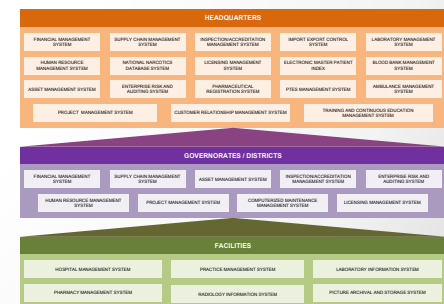
Prescribes MOH with a future state organization structure and a stricter IT Governance model to curb inefficient practices in IT management

## Information Model across MOH



Provides information flows and linkages between key MOH processes acting as a reference for IT integration

## Conceptual Architecture



Provides a structure to the IT environment at the three tiers and sets architectural guiding principles including integration & security



# The future state Component Business Model

|  | 1. Service Provision                            | 2. Regulatory   | 3. Resources Utilization                         | 4. Information Services                        | 5. General Business Administration        | 6. Finance                                      | 7. Insurance                  |
|--|---|---|--|--|---|---|-------------------------------|
| Direct   | National Health Strategy & Planning             | Curative Affairs Regulatory Strategy & Planning       | Technical Support & Projects Strategy & Planning | Information Strategy & Planning                | Administration Strategy & Planning        | Financial Strategy & Planning                   | Marketing Strategy & Planning |
|  | Curative Services Strategy & Planning           | Preventive Affairs Regulatory Strategy & Planning     | Asset Strategy & Planning                        | IT services & solutions Strategy & Planning    | Procurement Strategy & Planning           | PTES Claims Strategy & Planning                 | Insurance Strategy & Planning |
|  | Preventive Services Strategy & Planning         |   | Supply Chain Strategy & Planning                 |  | Legal Affairs Strategy & Planning         |   |                               |
|  | IEC Strategy & Planning                         | Pharmaceutical Affairs Regulatory Strategy & Planning | HR Strategy & Planning                           | IT Continuity & Resilience Strategy & Planning | Customer Relationship Strategy & Planning | Crisis Management Financial Strategy & Planning | Provider Strategy & Planning  |
|  | Social Services Strategy                        | Consumer Protection Strategy & Planning               | Capacity Building Strategy & Planning            |  | Business Operations Management            | Financial Management                            | Marketing management          |
| Crisis Management Services Strategy & Planning | Crisis Management Resources Strategy & Planning |   | Legislation & Logistics Oversight                |  |   |   |                               |
| Control  | Service Operations Management                   | Regulatory Operations Management                      | Technical Support & Projects Monitoring          | IT Portfolio Management                        | Customer Relationship Management          | PTES Claims Management                          | Insurance Claims Management   |
|  | IEC Management                                  | Consumer Protection Monitoring                        | Asset Management                                 | IT Outsourcing Management                      | Outsourcing Management                    | Quality Management.                             | Providers Management          |
|  | Social Services Management                      |   | Supply Chain Management                          | Data Management                                | Quality Management.                       |   | Quality Management.           |
|  | Crisis Management Oversight                     | Quality Management.                                   | HR Management                                    | Health Indicators Tracking                     | Quality Management.                       | Quality Management.                             | Quality Management.           |
|  | Quality Management                              | Crisis Management Resources Oversight                 | Capacity Building Management                     | IT Continuity Monitoring                       |   |   | Quality Management.           |
|  |   | Quality Management                                    | Crisis Management Resources Oversight            | Quality Management                             |   |   |                               |
| Execute  | Hospital services                               | Testing and Analysis                                  | Technical Support                                | IT Services & Solutions Development            | Business Administration                   | Budgeting                                       | Marketing                     |
|  | Ambulatory (Family Health) services             | Licensing & Recertification                           | Projects Deployment                              | IT Services & Solution Support                 | PTES Administration                       | Funds Deployment                                | Premiums Administration       |
|  | Ancillary services                              | Inspection  | Asset Operations                                 | IT Infrastructure Operations                   | Communications                            | Collections                                     | Actuarial                     |
|  | Ambulance                                       | Accreditation   | Supply Chain                                     | IT Outsourcing Administration                  | Procurements                              | Payments  |                               |
|  | Nursing Services                                | Registration  | HR operations                                    | Data Operations                                | Legal Affairs                             | Payroll   | Insurance Claims Processing   |
|  | Blood Banks                                     | Import & Export Control                               | Capacity Building                                | Health Indicators Sourcing                     | Customer Relationship                     | PTES Claims Processing                          | Provider Administration       |
|  | IEC Services                                    | Consumer Protection                                   | Crisis Management Resources Operations           | Language Translation                           | Auditing                                  | Accounting                                      |                               |
|  | Social Services                                 |   |  | IT Continuity Administration                   |   | Auditing  |                               |
|  | Crisis Mgmt. Service Operations                 |   |  |  |   |   |                               |

## 1.01 Curative Care Service Strategy & Planning


 Back

### Overview

Develop the curative care services strategy to all MOH facilities through planning and implementing a series of programs.

### Activities

- Develop hospital regulations & requirements based on essential community demands.
- Setting standards for equipment, techniques and capacity requirements.
- Setting plans for upgrade of secondary, tertiary and specialized care services.
- Setting strategies for increasing number of beds and out patient services for insufficient areas.
- Setting policies for customer & social services

### Key Challenges

- Lack of technology support
- Lack of decision support systems
- System of delivery is fragmented across a large number of providers with lack of integration in management and service delivery structure
- Legislative structure constraining several aspects as staffing, management and financial autonomy, procurement, revenue generation, etc...

### Organization

- Head of Curative care sector at MOH HQ
- Head of Preventive care sector at MOH HQ
- Head of Radiology Department
- Head of Customer Services dept. MOH HQ
- Head of Social services dept. MOH HQ

### Tools

- Manual Paper based.



# Main IT Supported Projects



## Pharmaceutical System

The Pharmaceutical Registration System (PRS) is an administrative application which automates the registration process of pharmaceuticals including drugs (human and veterinary), cosmetics, certain medical supplies, biologicals, dietary supplements and household insecticides. The PRS will have 68 workflow driven functionality supporting the registration process from application until approval or rejection.

The screenshot shows the website of the Egyptian Drug Authority (EDA). The header includes the EDA logo and the text "Egyptian Drug Authority" and "Ministry of Health". A navigation menu contains links for "About", "Legislation", "Safety & Quality", "Services", "Download", "News", "FAQs", and "Contact Us". A language selector is set to "عربي".

The main content area is titled "Services > Registration". Under "Registration", there is a list of services:

- Licenses
  - Registration
    - CAPA Committees
    - Dietary Supplement
    - Drugs for Human Use
    - Medical device
    - Biocidal
    - Veterinary
    - Cosmetics
    - Biological Products
    - Issuing Export & Price certificates
  - Monitoring of Custom Release Department
  - Inspection
  - Hospital Pharmacy Administration
  - Drug Policy & Planning Center
  - General Directorate of Pharmaceutical Research
  - Customer Service

The "Registration Department" section contains the following text:

Registration department is responsible for assessment of all Pharmaceutical products for human use including food supplements, veterinary products ,insecticides, medical devices & cosmetics before giving registration license to ensure quality & safety of products with affordable prices by applying a Transparent -Effective -Smooth & Communicable System ).

Below this text are two links: "New List of Reference Countries" and "New e-Human Drug Submission Request".



# Telemedicine

10 VANS are scanning all the country for cancer breast, and equipped with video conference equipment and satellite connection for telemedicine and tele-consultation





# 24 x 7 Call Center

Call centre to serve the Cairo citizens 20 seats in HQ and will be extended to 27 governorates.





# IT Training Centre





# MOHP's 24 x 7 Data Centre







# Medical Council Data Center

## Location:

Nasr City, ground floor , fully equipped room with security system

