

# Health Facility Planning Seminar 2016

## HOSPITAL MASTER PLANNING

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- Hospital Master Planning Steps
- Hospital Master Planning in MOH
  - simplified approach
  - less-technical
  - can be done by hospital team
- Sample of Hospital Master Plan

# What is a Master Plan

- Guide for decision making
- Identify capital improvement needs
- Accommodate **future growth** of a facility that include:
  - potential operational needs
  - Infrastructure needs (current & future)
- Identify short term measures that are consistent with long term needs
- Respond to immediate needs in line with the development of long range plan
- Enable to initiate change & improvement, while reserving future policy decisions

# Why Master Plan

- Avoid ad-hoc development
- Proposed a development plan which is
  - total /long term solution for hospital development needs
  - coordinated
  - optimize resources (financial, manpower & land)
  - optimize service delivery

# Who prepares the Master Plan?

- Team effort :
  - Hospital administrator
  - Service providers
  - Technical staffs
- Service planning guide
- Planning policies/guide

# Steps

1. Collect hospital information, data , drawings
2. Develop work plan & deliverables
3. Mobilize appropriate team
  - Investigate & analyze existing facility
  - Future planning ideas
4. Create a comprehensive Master Plan suitable for implementation
  - Investigate & analyze existing facility
  - Future planning ideas

# What is a good Master Plan

## Key Characteristics :

- **Implementable**
- **Cost Sensitive**
  - financial , physical & human resource limitation
  - optimize available resources – capital & operating costs
- **Flexible**
  - able to adapt to future/new development
  - political, social, economic, technology

# Hospital Master Planning

**STEP BY STEP**



# Step 1 - Data Collection

- Workload data eg. Clinic attendences, delivery rate, surgery done per month etc
- Utilization data – BOR, ALOS, OT waiting time etc.
- Physical Space Inventory eg. No of blocks, wards, Ots, delivery rooms etc
- Previous Masterplan
- LOSP / Aerial Photograph
- As Built Drawings / Floor Plans

# Step 2 - Conceptual Direction for Hospital Development

- Identify trends & direction in public hospital development
- Established conceptual direction of the proposed hospital development to the institution leadership

## Step 3 - Site Planning

- Determine opportunities & constrains of site for future development
- Identify site conditions requiring corrective action
- Determine the best use of the Hospital's land resources

## Step 3 - Site Planning

- **Potential site :**
  - Within the hospital site (onsite)
    - Hospital site plan
    - Service route (including underground)
    - Sufficient to support new development
  - Outside the hospital compound (off site)
    - Land search & procurement
    - Feasibility & Suitability – location, transportation, optimizing resources

# Step 4 - Existing Building Analysis

- Assess the adequacy & appropriateness of the existing plant to accommodate current & future developments :
  - Utilities (water, electricity, genset, aircond etc)
  - Medical gases & LPG
  - STP

# Step 5 - Master Zoning Analysis

- Document & evaluate appropriateness of current space allocations
- Evaluate current building zones & the improvements future development could provide

# Step 6 - Departmental Analysis

- Conduct functional analysis for each department/unit
- Determine adequacy of facilities in each department
- Appropriateness of interdepartmental relationship
- Adequacy of space to accommodate current workload
- Physical condition & potential for expansion & conversion

# Step 7 - Department Workload Projection

- Basis for estimating future departmental space requirements
- Workload / Utilization
- Long term (5-10 years)



# Step 8 - Facility Requirement Projection

- Project facility required to support anticipated departmental activity levels
- Estimate the space requirements for each areas

# Step 9 - Facility Development Concept

- Identify the best facility development concept
- Invite user involvement as much as possible
  - Departmental growth options
  - Centralization vs decentralization
  - Interdepartmental affinities
  - Operating system & access
  - Material flow & handling system

# Step 10 - Alternative Development Strategies


- Alternative strategies to achieve the projected facility requirements
- Strength & weakness of each strategies
- Review strategies with Team & select a final course of action

# Step 10 - Hospital Master Plan Report

- Prepare a final report for the proposed Hospital Master Plan
- Proposed an implementation Plan
- Phased development & the proposed time schedule
- Short Term / Medium Term / Long Term

# **Establishing Hospital Development Master Plan For MOH Hospitals**

# Current Scenario in MOH Hospitals

- Most MOH hospitals has not established their development masterplans
- Hospital Development Masterplan not reviewed/updated  outdated
- Most projects proposed are to resolve current issues (reactive planning)
- Unable to do a comprehensive planning (piece meals)
- Failure to prioritize needs

# MASTERPLAN VS REACTIVE PLAN

MASTER PLAN	REACTIVE PLAN
Long term (10 – 20 years)	Short Term (1-2 years)
Team Effort (Democratic)	Less Teamwork ( Autocratic)
Scope- Holistic / Comprehensive	Piece-meal
High efficiency – cost, resources, workflow, work processes	Less efficient
Satisfaction - High & long term	- Low & Short term

# Current Scenario in MOH Hospitals

## Lack of Building Information

- No As Built Drawings
- Unsure of building age
- Upgrading works done without proper documentation hence unsure of service route
- No continuation of development plan when new hospital director took over



# Realizing a Hospital Master Plan in MOH Hospital

## Form a Team

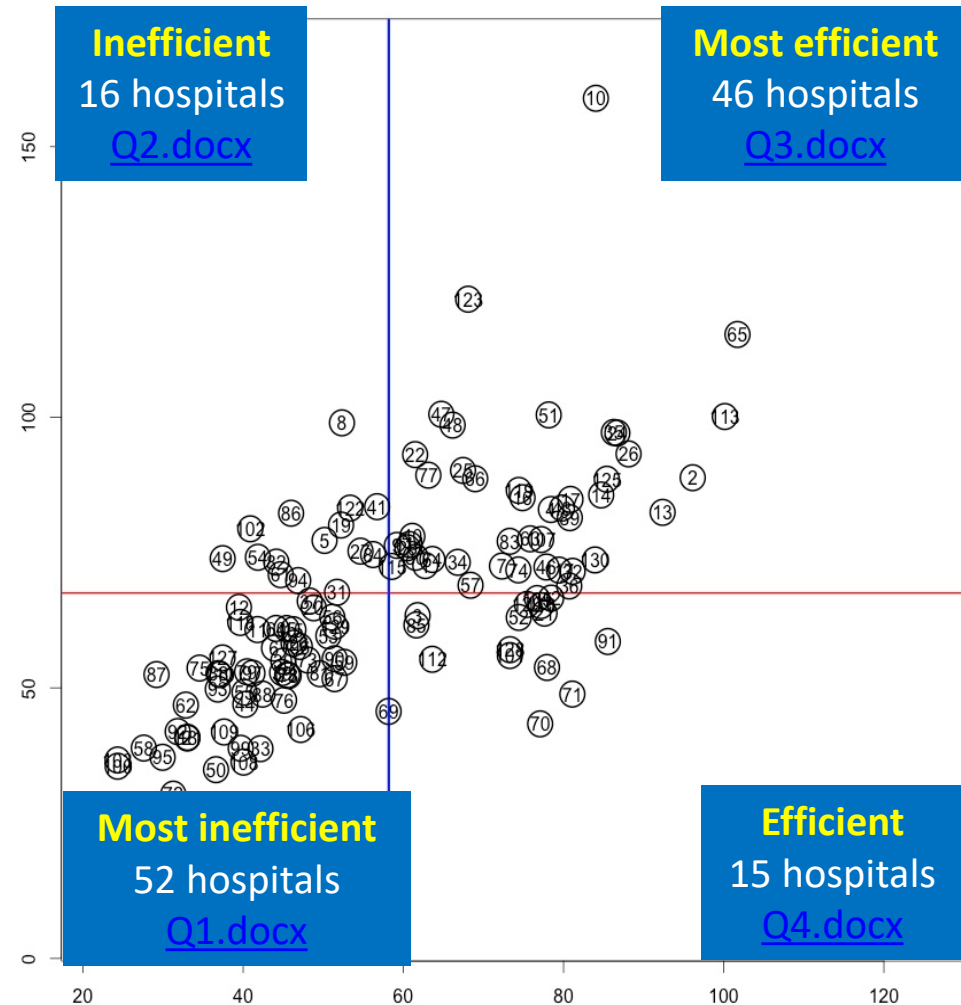
- Hospital Director
- Deputy director (service & development)
- Hospital engineers
- Allied Health
- Nurse
- MA
- Clinician

# Service Planning Data

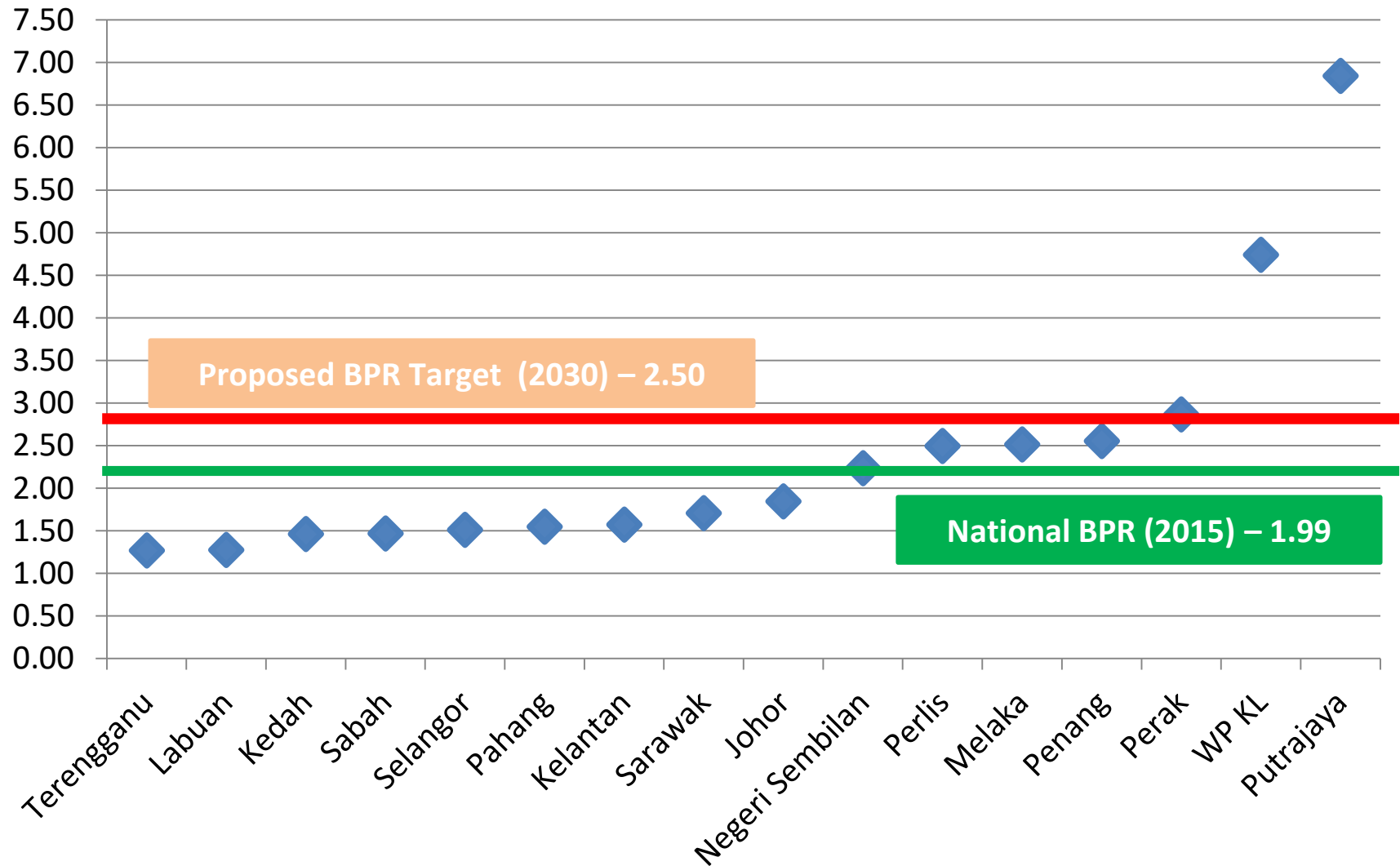
- Where we are now?
  - Data Collection (Evidence Based)
    - BOR
    - BTO
    - ALOS
    - Waiting Time (OT, procedures
    - etc)
  - Hospital Efficiency Index (Pablo Lasso Model)
  - BPR benchmark - State BPR vs National BPR
  - Prescribed norms

# Pabon Lasso: 129 MOH hospitals (2013)

- 129 MOH hospitals (excluding 10 SMIs & Orang Asli)
  - ▣ Avg BOR **58.18%**
  - ▣ Avg BTO **67.53** times per year
  - ▣ Avg ALOS **3.33** days
- 68 hospitals are inefficient
- 61 hospitals are efficient



# Beds Population Ratio Malaysia – By States (2015)



# Service Planning Data

- What facilities do we have to support these services:
  - Existing hospital building blocks & physical space inventory:
    - Construction date
    - Aerial photo/latest site plan of hospital (LOSP)
    - Building floor plans (As Built Drawings)
    - etc
  - Previous hospital masterplan (if any)

# Current Constrain

## Current Service Delivery Issues

- Identify short & medium term development needs
  - Improvement of Outpatient , Inpatient, Support Services, OTs, LDR etc.
  - Compliance to standards / norms

# Future Service Planning

- **Where we want to be**

- In line with service provision planning/policies eg.

- Non specialist → minor specialist
- Minor specialist → major specialist
- Major specialist → additional sub specialty
- Cluster hospital

- In line with manpower planning (specialist, allied health & support staffs)

- **Reference :**

- Medical Development Division
- Specialty & Sub specialty Framework of MOH Hospitals

# Physical Planning – Factors to be considered for new development/building

- Benchmark your hospital with other similar public hospitals eg.
  - Nucleus hospitals
  - Hospital capacity/size/specialty
  - Workload
- How does other hospital evolve i.e. how do they develop their hospitals



# Physical Planning – Factors to be considered for new development/building

- Study & evaluate approved projects in other public hospitals & try to customize/fit them to your hospital masterplan
  - Ward block
  - Inpatient & Outpatient Block
  - Hemodialysis Centre
  - Ambulatory Care Centre (ACC)
  - Obstetric Complex
  - Women & Children Complex
  - Neuroscience Complex
  - Low Risk Centre
  - Medical Store

# Physical Planning – Factors to be considered for new development/building

- Learn mistakes from others so you don't repeat them
  - Decanting needs
  - Equipment needs
  - Manpower needs
  - Upgrading of existing hospital infrastructure :
    - Medical gases
    - Water supply
    - Electrical & Genset
    - ICT
    - STP
    - Air-Cond System
    - Etc

# Physical Planning – Factors to be considered for new development/building

Utilizing the vacated space:

- Role of Hospital Master Plan Team
- Shall be part of the overall Hospital Master Plan.
- If not indicated in the Master Plan, these spaces will not be optimally used
- Allocation of these spaces shall be based on Need

# Why follow other hospitals

- Development trend / way forward
- Development policies
- Lack of time/trained manpower/resources
- Customized to individual hospital needs
- Better Cost Estimates
- Better chance for approval

# Support Service Planning

- Masterplan must be comprehensive to **also** include:
  - relevant support services expansion plan
  - engineering components upgrading requirements
  - decanting of services (if required)
  - fire & safety issues etc.

# Master Plan Options

- Masterplan must outline development options and identifies the one that will maximize the value of available resources ie. financial, physical and human resources.

# Hospital Development Master Plan Approval

- Approval at Hospital Level
- Approval at JKN level
- Approval at MOH level (Medical Development Division & Planning Division)
- Documentation
- Masterplan Review – latest every 5 years
- Dateline ?????

# Project Approval Criteria

- Project proposals shall be based on the latest approved Master Plan
- A revised Master Plan must be approved first if project deviate from the master plan.



# Hospital Development Master Plan For MOH Hospitals

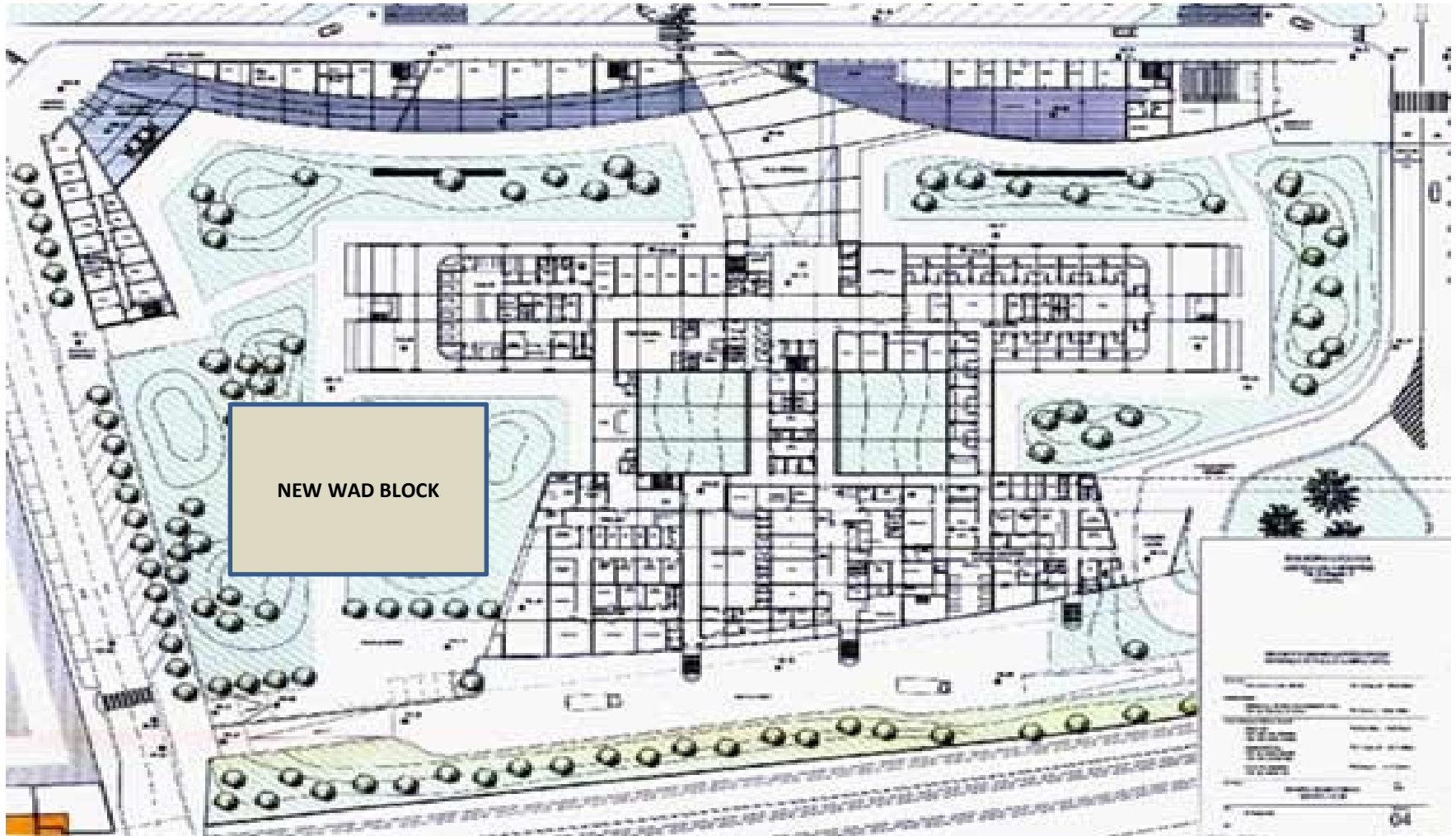
**EXAMPLE:**

**Master Plan For A Non Specialist Hospital A**

# Master Development Plan For Existing Non Specialist Hospital A

Short Term / Medium Term Visiting Specialist / Cluster Phase 1	Medium Term Early Minor Specialist Phase 2	Long Term Full Minor Specialist Phase 3	Long Term Full Minor Specialist Phase 4
<p><b>Relative New :</b></p> <ul style="list-style-type: none"> <li>- Upgrade OT</li> <li>- Upgrade part of Ward to become ICU</li> </ul> <p><b>Old Hospital :</b></p> <ul style="list-style-type: none"> <li>- Relocate GOPD to existing KK</li> <li>- New Block – OT, TSSU, ICU</li> <li>- Upgrade existing GOPD to become Visiting Specialist Clinic</li> </ul>	<p><b>Old Hospital :</b></p> <p>Relocate GOPD to new KK</p> <p>Upgrade existing GOPD to become Visiting Specialist Clinic</p>	<p><b>Old &amp; New Hospital :</b></p> <p>New Ward Block</p> <ul style="list-style-type: none"> <li>- A&amp;E , Radiology</li> <li>- Outpatient: Specialist Clinic &amp; Office, CME, Outpatient Pharmacy</li> <li>- Inpatient: Ward (Surgical), CSSD, Inpatient Pharmacy, Stores, Main OTs, Kitchen</li> </ul>	<p><b>Old &amp; New Hospital :</b></p> <p>Upgrade Old Building</p> <ul style="list-style-type: none"> <li>- Mat OTs</li> <li>- Med/Paeds/O&amp;G ward</li> <li>- Labour &amp; Delivery</li> <li>- Expand Medical Records</li> </ul>

# Master Plan For Hospital A



**THANK YOU**