DESIGN DEVELOPMENT STAGES IN HOSPITAL PROJECT
CONTENT

• Design Development
• The Concept Plan
  – Site masterplan and Building zone
  – Departmental zoning
• Schematic Plan / Preliminary Design
  – Departmental layout
  – Room Data
• Detail Design / Loaded Drawing
Introduction

• Provision of a hospital as a facility is a team effort from initiation till its successful operation.

• The hospital building project, as a facility project, has a client team as the customer or end-user;
  – the design team as the professional technical adviser and consultant;
  – as well as the contracting team as the builder and supplier.
While the Design Team need to understand the Users of the hospital in their interpretation of the Brief to Design;

the ‘User-Client’ also need

– to understand the language or medium used by the Design Team in their presentation through ability to read drawings, and documents;

– understand project and technical terminologies used;
Understanding the Role of Users in DESIGN DEVELOPMENT stages

In Hospital Project
Stages of Hospital Projects

**Briefing Stage**
- Debriefing

**Design Development**
- Master Plan / LOSP
- Block Plan
- 1:100 Scale Plan
- Room Data
- Tender Drawings
- Specifications – Finishes, colour scheme, materials, etc

**Construction**
- Site meetings
- Approval of materials
- Approval of equipment
- Approval of furniture
- Approval of mock-ups
- Other

**Commissioning**
- Preparation of taking over
  - Engineering services
  - Staffing
  - Equipment
  - Patients transfer
    - (if redevelopment project)
  - Other

**Take Over**
- Operation
Sub-STAGES IN DESIGN DEVELOPMENT

Concept Plan
- Master Plan / LOSP (LayOut Site Plan)
- Block Plan

Sketch / Schematic Plan
- Departmental layout plan
- Adjacencies

Detail Drawing / Working Drawing
- 1:100 Scale Plan
- Room Data
- Tender Drawings
- Specifications - Finishes, colour scheme, materials, etc
• **Design Development** is the overall stage prior to tender documentation and construction.

• It is a stage **after** the formulation of the Design Brief by the Briefing Team (i.e. End Users, Planners and Architects) and starts during the debriefing stage.

• Design development is carried out **by the Design Team** of Architects, Engineers and Cost Consultants /Quantity Surveyors **with input from Users** in a formal interaction.
In physical planning and design development, User-Client are involved from
- the Site Zoning and eventual master-plan;
- Building Massing /building types i.e. high rise or low rise;
- Departmental adjacencies (location);
- Detail layout, Room Data and Equipping!!
• Users at this stage are **End-Users of the facility being developed** i.e. the Hospital Team together with the Corporate Client i.e. MoH and The State Health Office. Expert individuals will be called upon as required to assist in the decision making.
• The focus of Design in hospitals or any health facility is for Patient Care. Hence the ultimate client are patients and those that supports patient care i.e. the staff, the procedures, the maintenance, other.
Understanding the language of the Design Team
The Concept Plan

• The conceptual realisation of the project involves assimilation of the **design brief** by the Design Team from different levels as stated below:

- the Site
- the Building Complex
- the Department
- the Suite
- the Room
- the Individual Space

In a sense, there is a progression from a broad perspective to micro level, from master site planning all the way to the design of individual space.

( the stages applies for both new hospital or redevelopment projects)
• **Concept plan** is actually drawings shown on the initial approach taken by designers to portray client/user needs in principle form in new or redevelopment project.

• Normally these are presented in **colourful mode** in the form of perspectives drawings, zoning plans, and tentative elevations including design concept write up.
Zoning Plan - for the site plan

• Analysis of the site - its constraints and advantages, buildable area available; external traffic flow; etc - as required by the Master-plan Brief.

( In upgrading or redevelopment project, the existing zoning or masterplan (if any) should be reviewed physically in respect of its existing and projected services.)
Zoning Plan

• The different areas of a hospital shall be grouped according to zones:
  – **Outer zone** – area that are immediately accessible to the public; emergency and outpatient services
  – **Second zone** – areas that receive workload from the outer zone; lab, radiology, pharmacy
  – **Inner zone** – inpatient, nursing care
  – **Deep zone** – OT, ICU, labour delivery service and nursery.
Building Massing Plan

- Building Massing plan includes ‘bubble diagrams’
  - in locating respective departments on the site plan,
  - its vertical and horizontal relationship, low rise and high-rise concept,
  - the engineering spatial requirements - concept or system;
  - inter departmental traffic flow, security and fire safety i.e. as a the building complex requirements;
Building Massing Plan

LAYOUT PLAN DEPARTMENTAL ADJACENCIES

- Hospital street
- Outpatient Zone
- Diagnostic & Treatment
- Specialist Clinics
- Haemo-dialysis
- Roadway/Access
Building Massing

Wards / Inpatient

Outpatient (Specialist Clinic & Day Care)

Rehabilitation

Diagnostic & Treatment

Emergency

Service tunnel

CROSS SECTION

Vertical connection
• **Departments** are still conceived as individual blocks per department or ‘bubbles’ as far as this stage is concerned;
Schematic Plan or Sketch Plan
Schematic or Sketch Plan

- Schematic Plan or Sketch Plan is sometime known as **Block Planning** or **departmental planning**. It is actually drawings that is done with **actual scale and size** as close as possible to areas prescribed in the **design brief** as a result of the agreed concept plan.... but **by departments.** *Internal layout detail is still in its infancy*
• The location of different departments as agreed in the concept plan is further illustrated with layout of individual rooms within the department considering both the inter relationship of the department and intra relationship of the individual room or space within the department.

The designer in the process of producing these drawings is expected to have done some evaluation or research of contemporary similar facilities.
Detail Drawings

Orthopedics
Detail Drawings

• Detail Drawings is part of Working Drawings or Construction Drawings prior to tendering.

• It forms part of a tender document given to contractors considered to be binding.
USERS INVOLVEMENT

In Design Development Stages

In summary
Stage

- the **Masterplan / Development Control Plan (DCP)** for submission to local authority for Development Order;

**USERS INVOLVEMENT** were to confirm what was initially agreed at the Concept Plan stage and endorsed it as part of Development Order submission to Local Authority.
stage

• the site plan of the current proposed development / Layout Site Plan (LOSP) including location plan.

• Users input is to see that the component of services required are apparent.

• Corporate Client signature is required to endorse the plan for submission.

(The difference between the DCP and site plan is that the DCP remain a concept plan but the site plan is a constructive plan).
stage

• the translation of the approved sketch plan to 1:100 or 1:200 scale plan for signing by the Client/User

• These drawings need to be checked against the sketch plan agreed with regards to workflow and inter and intra departmental.
At this stage, once the Client has agreed, the schedule of accommodation prepared can now be given to equipment planner to prepare equipment list for the next stage – **The Room Data**

It is also at this stage the drawings are given to the supporting engineering professionals of the Design Team to proceed with engineering services layout etc. *(Detail M & E can only be determine once the Room Data is finalised).*
stage

- **the Room Data**, that illustrate in drawing form (plan and elevation) in four sided view of a space required in a department with written data on environment, finishes, performance, equipment of various groupings, activity, etc.

- The Users input at this stage is tremendous. Normally the Room Data Session for the whole hospital project between the Design Team and Client and actual users of the department or space takes 9-12 months.

- On average the session takes 1-2 days to complete one department the first time round.
ROOM LAYOUT SAMPLE
• On completion of the Room Data, the Design Team will review the 1:100 Scale Drawings and the Site Plan, simultaneously preparing the detail drawings of cabinet design, door details, windows and door schedules, colour scheme etc.

• Prior to tendering, these drawings are checked to ensure consistency by the health/medical planners. It is also at this stage that a FINAL COST of the project has been worked out for EPU's approval.
CONCLUSION
Conclusion

• Next to Briefing, Design Development in hospitals project is where most Users are involved.

• The DD need a multitude of approach. It always needs to balance/compromise in order to achieve the best decision of the time since hospital architecture is always different, very complex, always changing and costly.
Thank You