



HA Convention 2010

Enhancing Organizational Performance

**When Lean Management Meets
Project Management ...**

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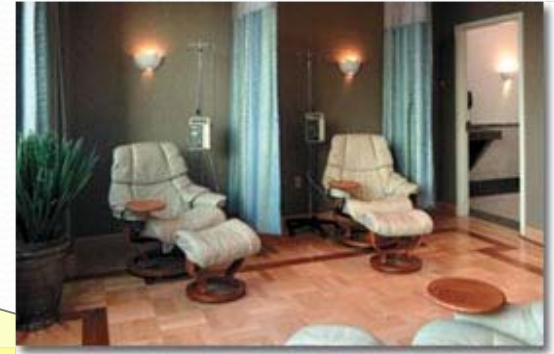
- Founded in 1937
- One of the largest acute regional hospitals in Hong Kong
- 1400 beds
- The teaching hospital for The University of Hong Kong Li Ka Shing Faculty of Medicine



Ambulatory service

- Scattered locations and piecemeal service
- Each department manages its own services
- Closing down the medical and surgical day centres

To setup an Integrated
Ambulatory Centre (IAC)
in 6 months' time!



The missions

- Manage different service needs and users' expectations
- Provide better **project management** in terms of
 - Scope
 - Quality
 - Time
 - Cost
 - Risk

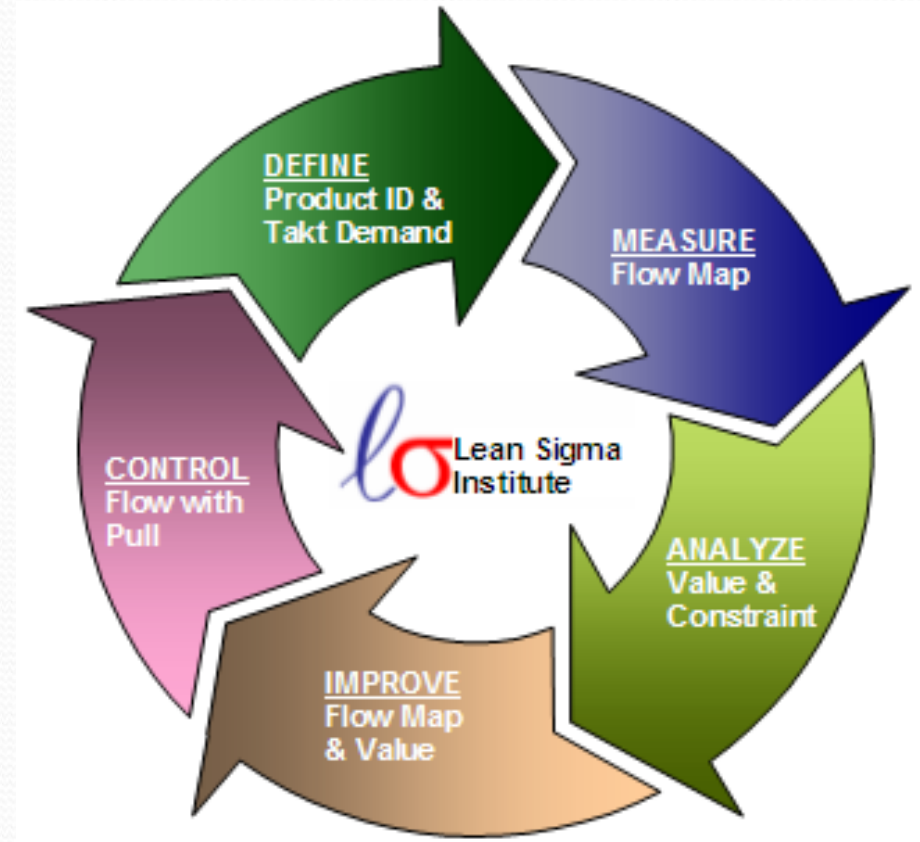


e- hospital care

- *efficient*
- *effective*
- *e-based*
- *eliminate waste*
- *empower*
- *engaged*
- *enrich*
- *equitable.....*
- *easy & safe*



Traditional project management + Lean ingredient



Project management

- Set up a multi-disciplinary working group



Step 1- Planning

- Analyze and define existing service workload
- Communicate and collaborate with all stakeholders continuously
- Finalize layout designs and materials

Step 2 Operation management

- Track the quotation, tendering, purchasing, ordering and delivering furniture and equipment
- Control budget and work program
- Conduct regular worksite inspection
- Carry out testing and commissioning, defects rectification and re-inspection

Monitoring of project schedule

	Nov 09			Dec 09			Jan 10			Feb 10			Mar 10			Apr 10			May 10		
1. Define Scope of Service	█																				
2. Design Patient Flow and Layout		█	█																		
3. Finalize Design, Work and Cost			█	█																	
4. Consolidate Furniture and Equipment List				█	█																
5. Tendering, Purchasing and Ordering						█	█	█													
6. Renovation Process <ul style="list-style-type: none"> • Builder's Works • HVAC Installation • MGPS Installation • Electrical Installation • Fire Service Installation • Testing and Commissioning 								█	█	█	█	█	█	█	█	█	█	█	█	█	
7. Furniture and Equipment Installation																				█	
8. Moving In																				█	█
9. Implementation and Operation																					█

Integration of services

- **Service provision**

- **On-site day procedure**

- Bedside biopsy
 - IV therapy
 - Care of tracheostomy/central line, etc.

- **Post-intervention/procedure observation** for procedures performed in other centres

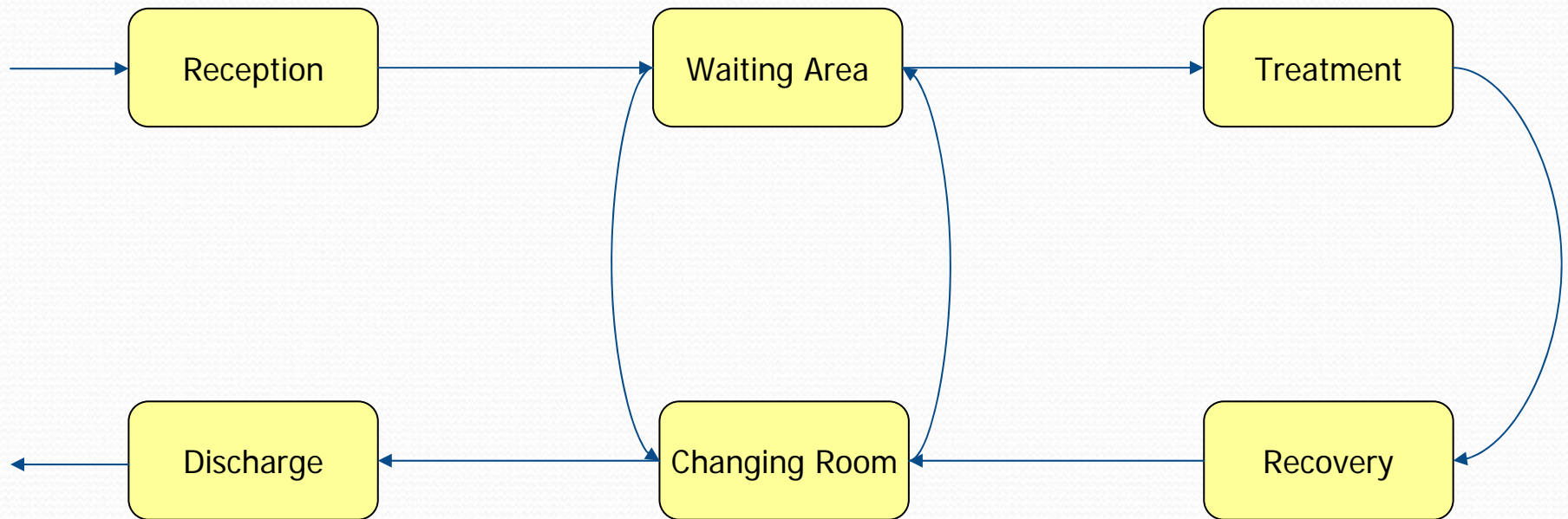
- Endoscopy Centre
 - Radiology Dept.
 - Operation theatre, etc.



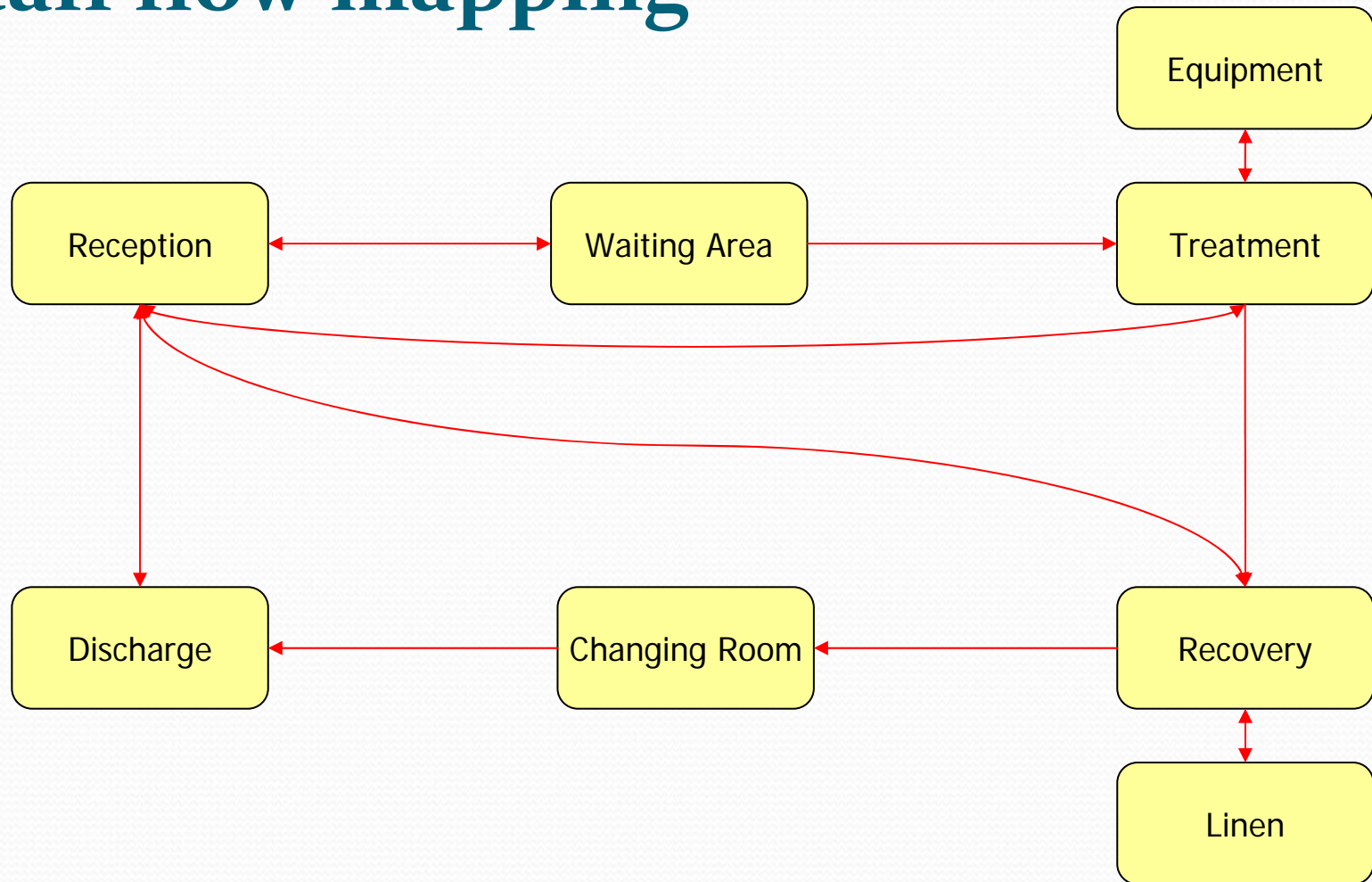
Lean methodology

- Review current practices of existing day centres
 - Daily operation
 - Patient flow
 - Staff workflow
- Adopt lean management in the planning phase:
 - Enhance design layout
 - Identify opportunities for improvement

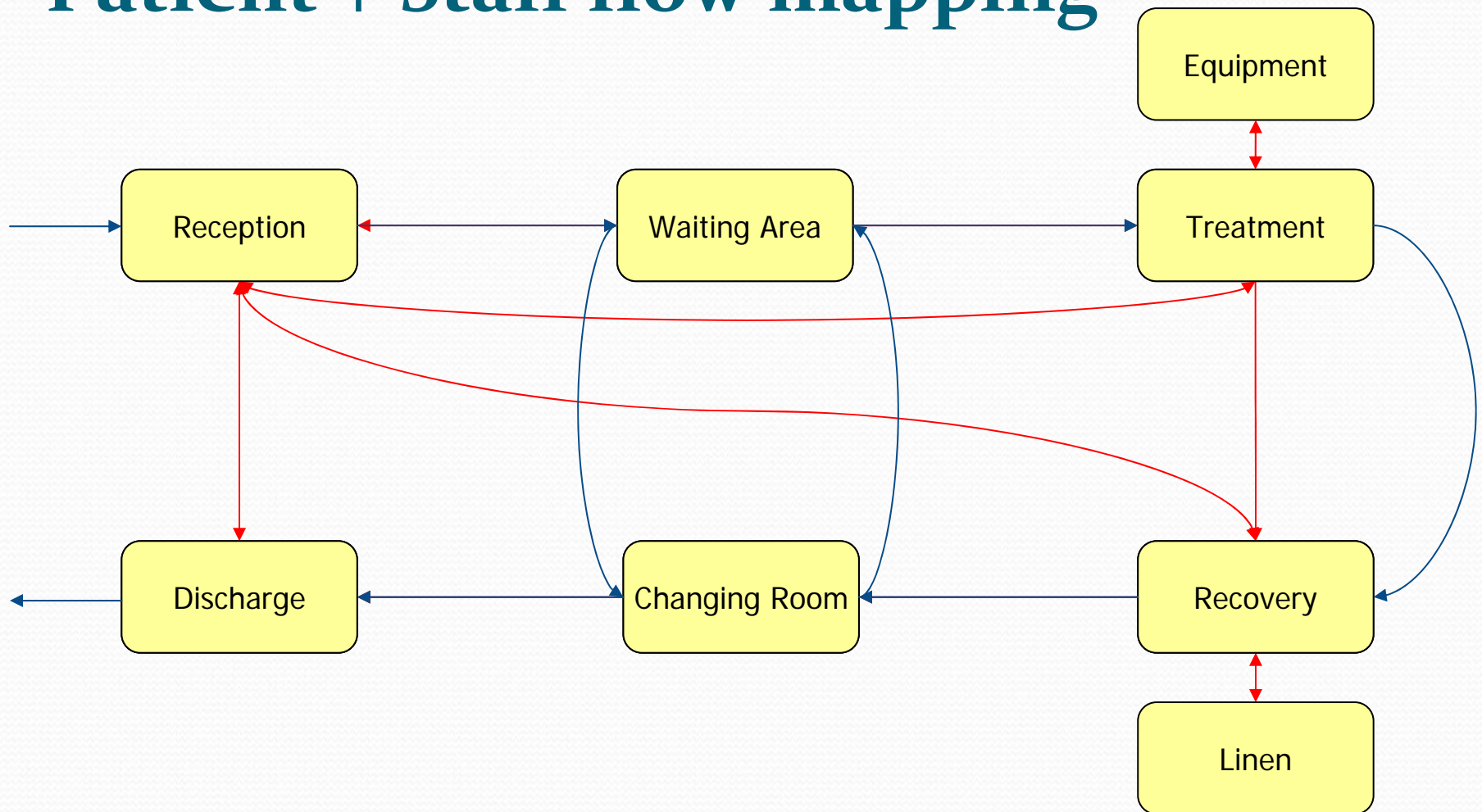
Patient flow mapping



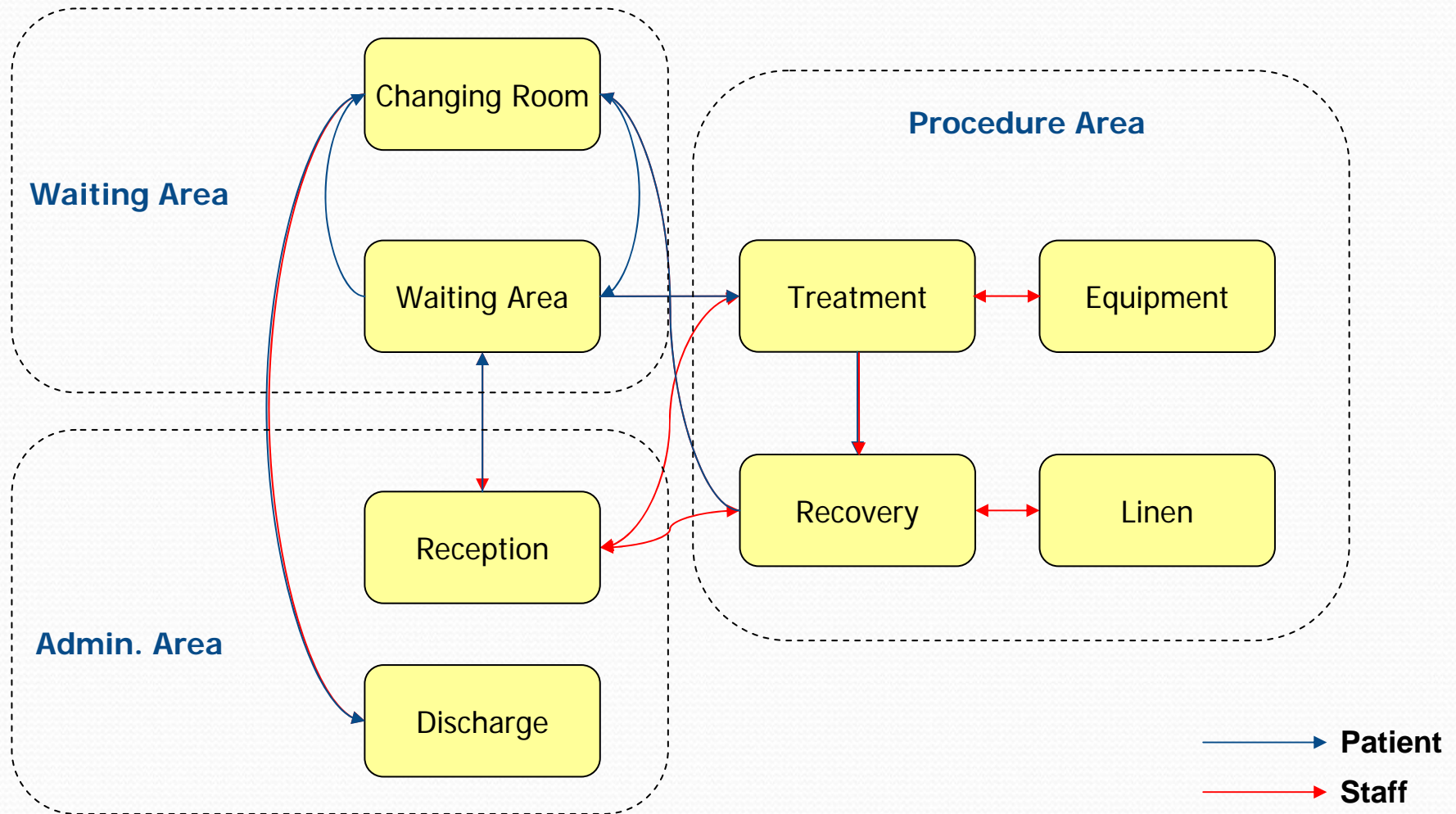
Staff flow mapping



Patient + Staff flow mapping



Layout determined by flow



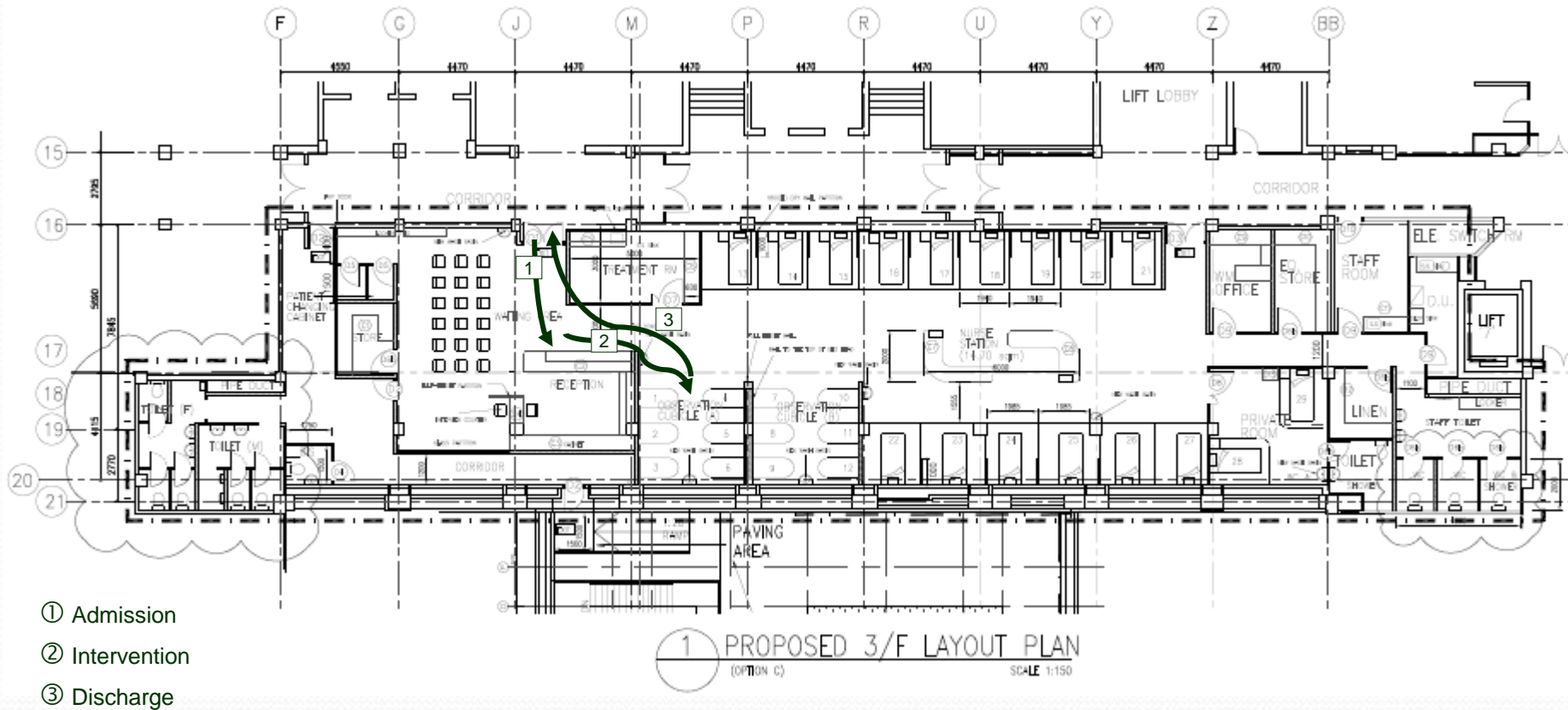
Principles on physical layout

- Effective movement of patients and staff
- Key is to group interdependent elements with minimum distances between one another

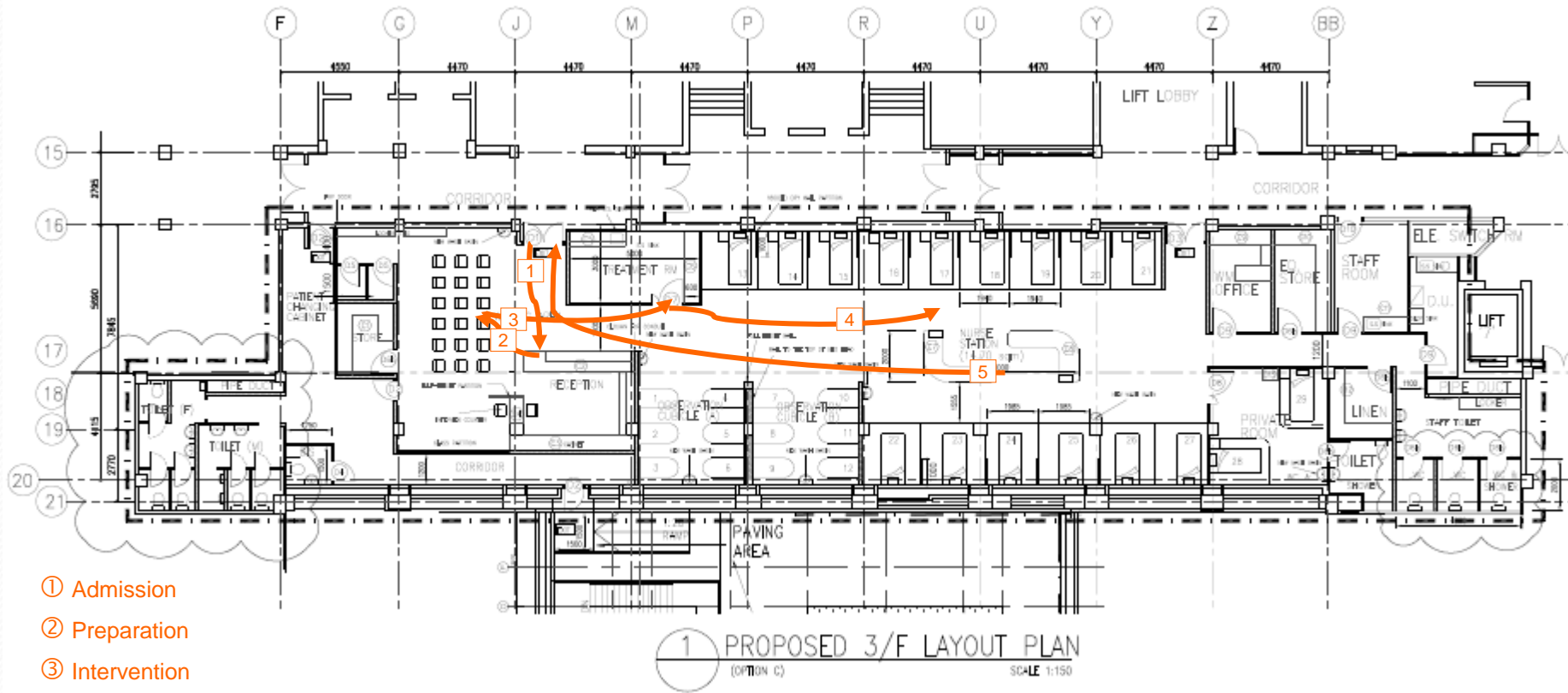
Principles on physical layout

- For patients:
 - **One-way traffic** from registration to procedure to discharge
- For staff:
 - **Shortest routes for travelling** to/from supplies storage, cleansing storage, treatment area and recovery area

Patient Group 1 (Blood/Drug Transfusion, Pre-op/BMT Workup)

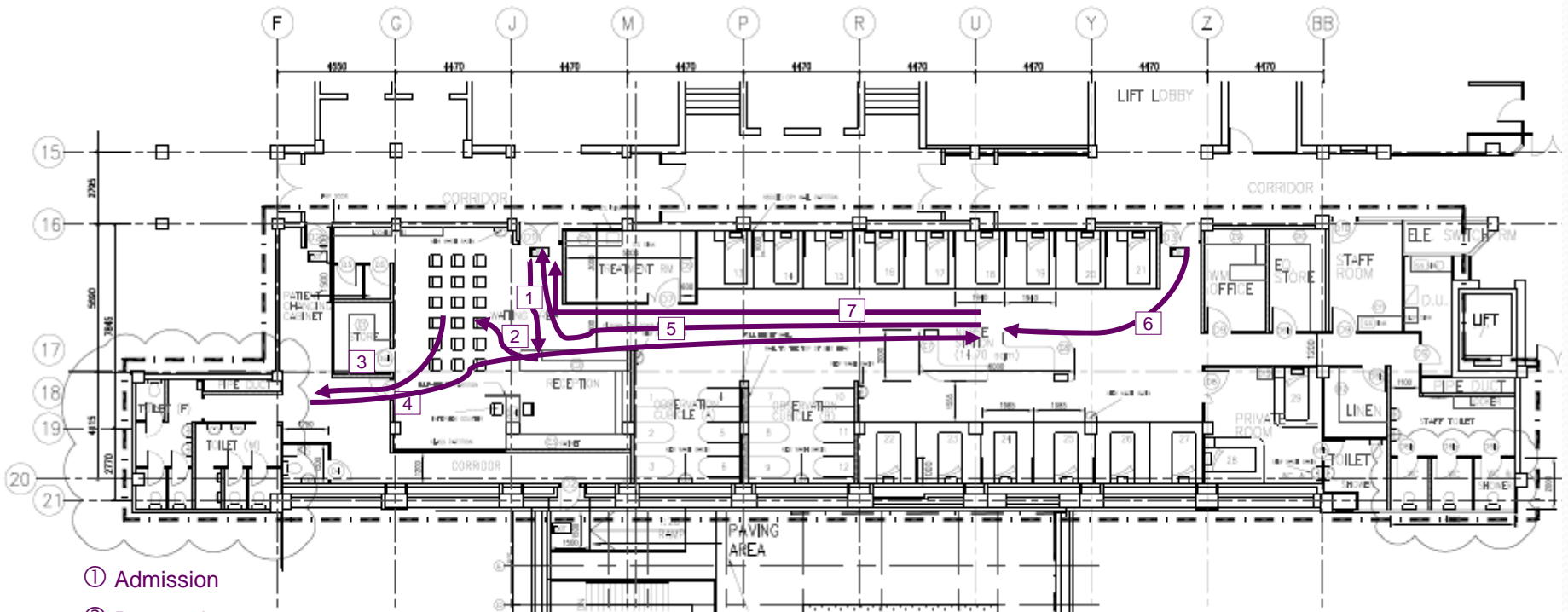


Patient Group 2 (Biopsy, Minor Procedure)



- ① Admission
- ② Preparation
- ③ Intervention
- ④ Recovery
- ⑤ Discharge

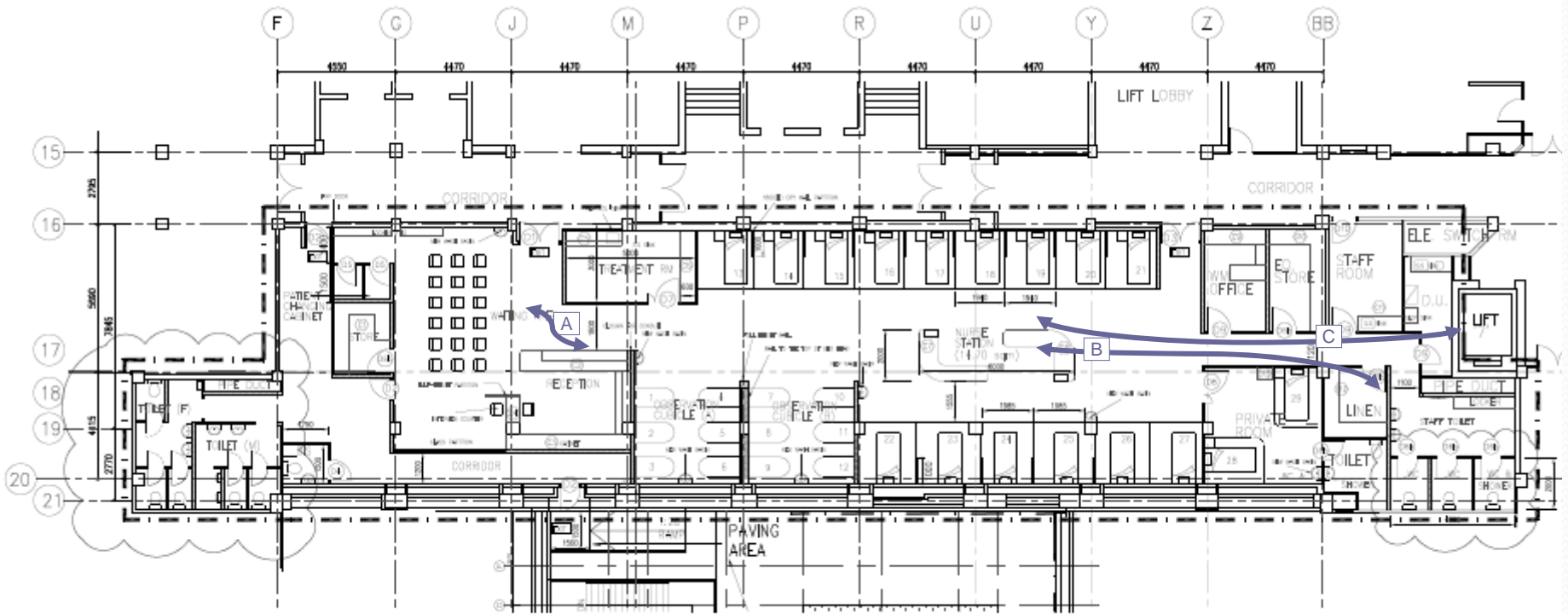
Patient Group 3 (Endoscopy, Minor Operation)



- ① Admission
- ② Preparation
- ③ Changing
- ④ Preparation
- ⑤ Procedure
- ⑥ Recovery
- ⑦ Discharge

1 PROPOSED 3/F LAYOUT PLAN
(OPTION C) SCALE 1:150

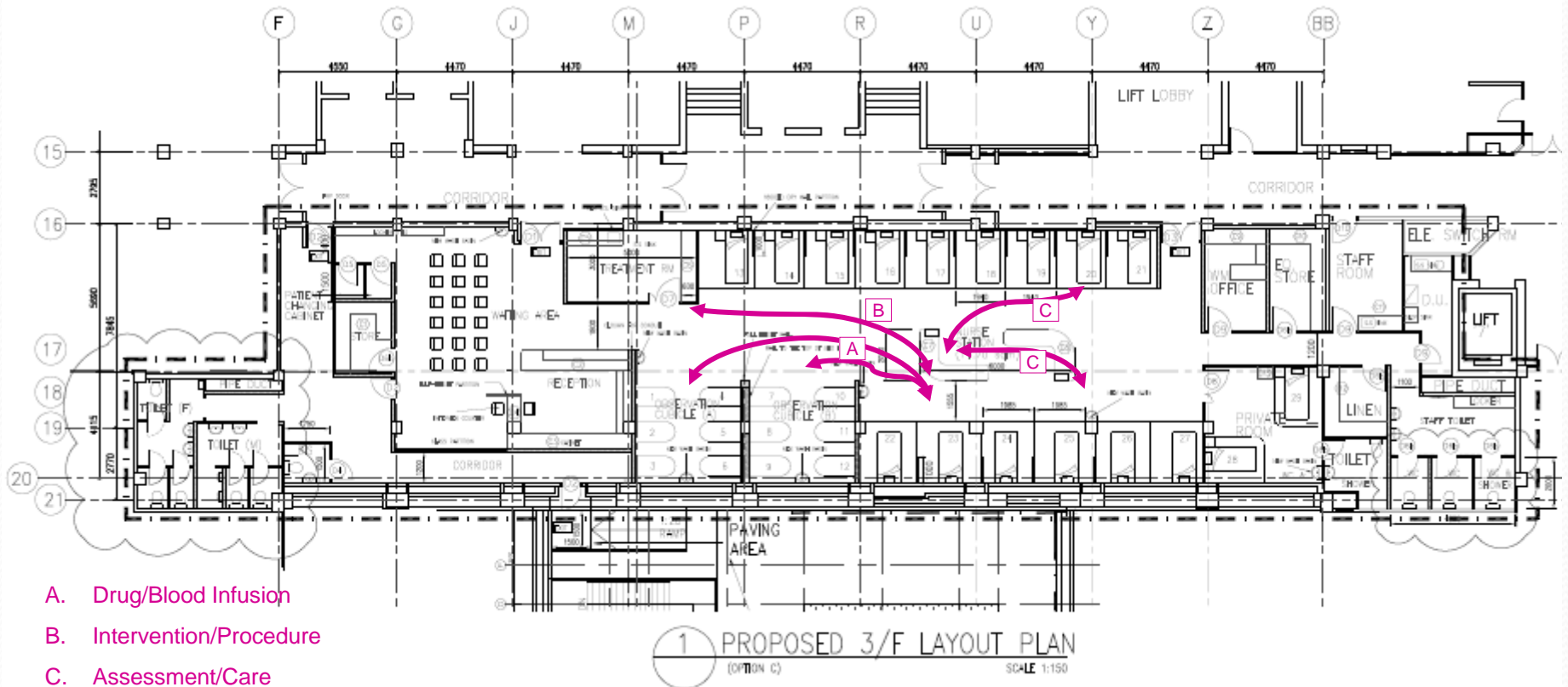
Supporting Staff



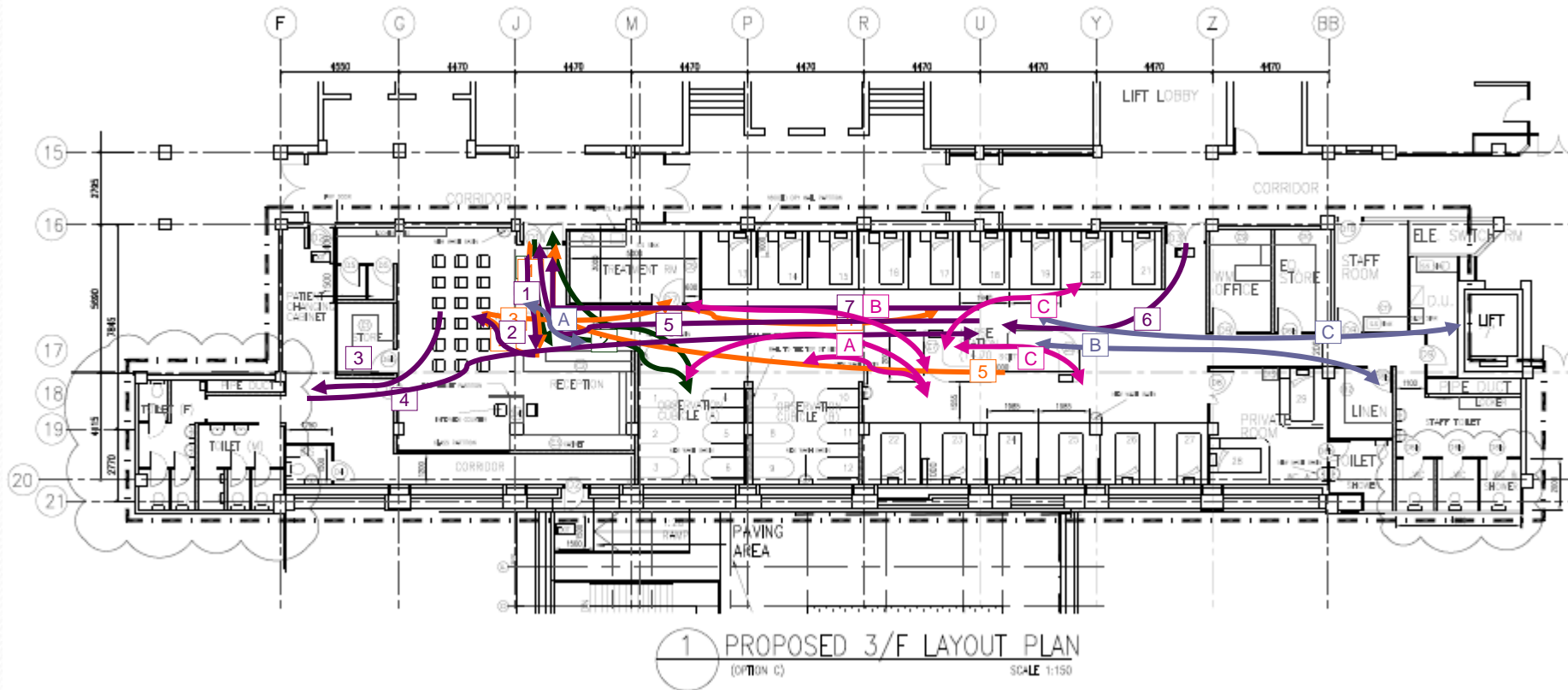
1 PROPOSED 3/F LAYOUT PLAN
(OPTION C) SCALE 1:150

- A. Preparation
- B. Bed-making
- C. Cleansing

Nursing Staff



Patient + Staff Combined



- Patient Group 1 - Blood/Drug Transfusion, Pre-op/BMT Workup ➔
- Patient Group 2 - Biopsy, Minor Procedure ➔
- Patient Group 3 - Endoscopy, Minor Operation ➔































- Supporting Staff ➔
- Nursing Staff ➔

Selection of layout plan

- Six layout plans were developed for consideration
- Flow diagrams, from the point of view of different stakeholders, were drawn for each plan
- These plans were then evaluated based on the agreed principle

To arrive at a layout plan that **coordinates the traffic patterns** of patients and staff, while **minimizing the distances to be travelled**

Layout Plan Evaluation Summary


Option Stakeholder	A	B	C	D	E	F
Patient Group 1	Good direct path 	Good direct path 	Good direct path 	Long door-to-reception distance 	Chairs located at the "other" side of ward 	Good direct path 
Patient Group 2	Procedure room in between waiting and recovery area 	Procedure room close to waiting area 	Procedure room at the other side of ward 	Procedure room in between waiting and recovery area 	Procedure room in between waiting and recovery area 	Procedure room in between waiting and recovery area 
Patient Group 3	No "side" door to access D3; easily-accessible stretchers after bowel prep. 	Good direct path 	No "side" door to access D3 	Good direct path 	Door for stretchers in front of chairs 	Good direct path 
Supporting Staff	D.U. and linen near recovery area 	D.U. and linen near recovery area 	D.U. and linen near recovery area 	D.U. and linen near recovery area 	D.U. and linen near recovery area 	D.U. and linen near recovery area 
Nursing Staff	Multiple nursing stations 	Nursing station located on the side 	Multiple nursing stations 	Nursing station in centre of ward 	Nursing station in centre of ward 	One nursing stations in centre of ward 

Patient Group 1 - Blood/Drug Transfusion, Pre-op/BMT Workup, RT/Chemo

Patient Group 2 - Biopsy, Minor Procedure

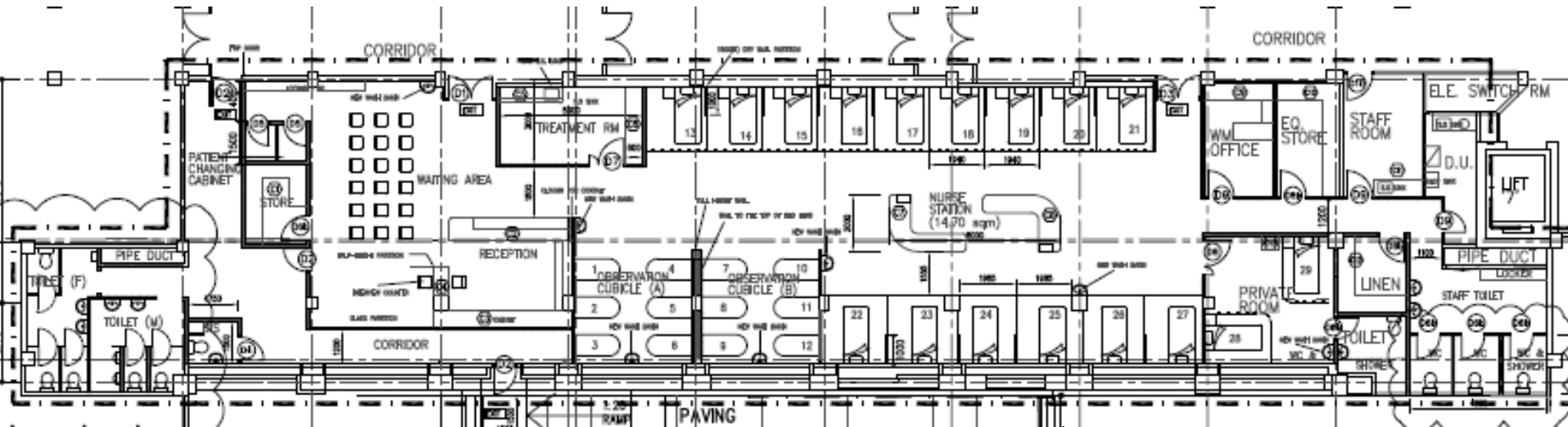
Patient Group 3 - Endoscopy, Minor Operation

 Undesirable

 Satisfactory

 Preferable

Finalized Layout



Layout Plan F was selected based on the evaluation.

Mission accomplished!
The Integrated Ambulatory
Centre completed in
6 months' time



Lessons learnt

- We share a common language- *e-hospital care*
- It helps to avoid disagreement and conflicts
- **Advance and proactive planning** could be undertaken to prevent wastes to occur before the construction of the centre

Lessons learnt

- It is envisioned that this framework will be used again in future construction/renovation work in QMH.

Way Forward

- To utilize *e-hospital care* in the **operational planning**
 - Proactively plan for **potential wastage in the future operation**
 - Suggest operational workflow enhancements
 - Standardize procedures
 - Enhance scheduling of cases
 - Streamline management of medical records
 - Simplify discharge procedures

Acknowledgement

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謝謝

Thank you



Respect

True North

*Waste
Flow*

Leadership

Push-Pull