

On Hospital Design

- Identifying Building Attributes of Hospital Design



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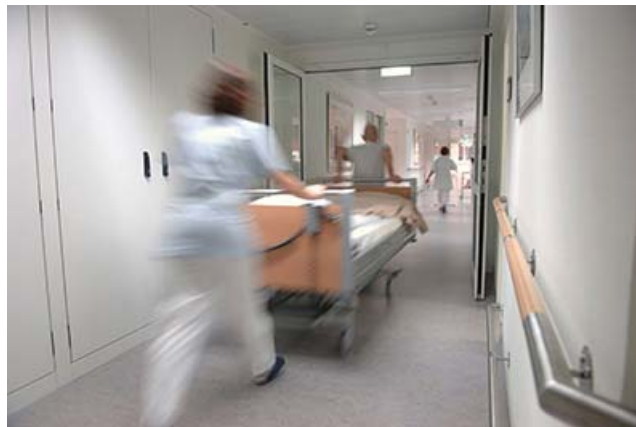
Research Project

– Optimal Hospital Layout Design

- Hospital Design: Practice, standards and benchmarks
- Surveying hospital design for a scientific design approach
- Top down design defined by functionalities
- A design approach, referring:
 - How can the entire life-cycle of health facilities be taken into account at the initial design stage?
 - How can hospitals be made more sustainable and adaptable to future changes?
 - What is the impact of systematized models of care on hospital functioning?
 - How can hospital be conceptually structured (as an entity responding to service needs) and as an actual building?

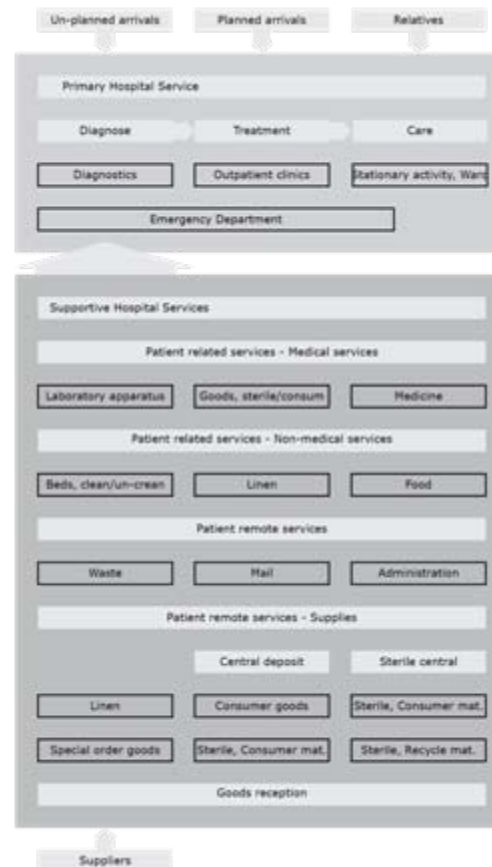
Care Focused Hospitals

- Construction costs
- Operating cost
- Hospital procedures and patient safety
- Patient procedures
- Hospital flexibility
- Healing architecture and evidence based design



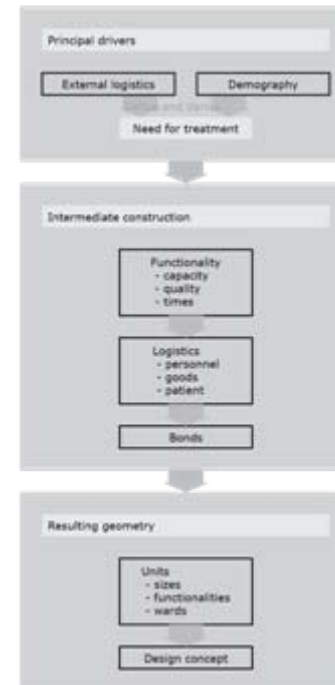
Building Functionalities

- Primary functionalities and secondary functionalities.
- Secondary functionalities are divided into patient related and remote.



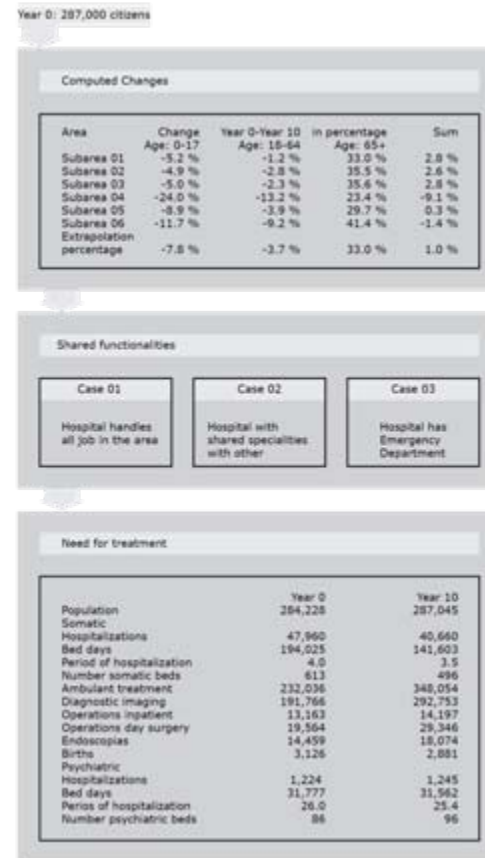
Top Down Design

- Principal Drivers
- Intermediate Construction
- Resulting Geometry



Principal Drivers

- *The external infrastructure*
 - Public transportation
 - Private transportation
 - Connectivity to other hospitals
 - Shared functionalities
- *Demography*
 - Population size
 - Age distribution
 - Health of the population



Intermediate Construction

- Capacities
- Qualities
- Times

Stationary activities, ward			
Hospitalizations	47,960	Placement	Centrally with easy access
Bed days	194,025	Light	Natural and Artificial
Period of hospitalization	4.0	Stay	Hours, days, weeks
Number somatic beds	613	Hygiene	Medium

Emergency Department			
		Placement	Centrally with easy access
		Light	Artificial
		Stay	Hours
		Hygiene	High

Operations			
Operations inpatient	13,163	Placement	Centrally with easy access
Operations day surgery	19,564	Light	Artificial
Endoscopies	14,459	Stay	Minutes, Hours, days
Births	3,126	Hygiene	High

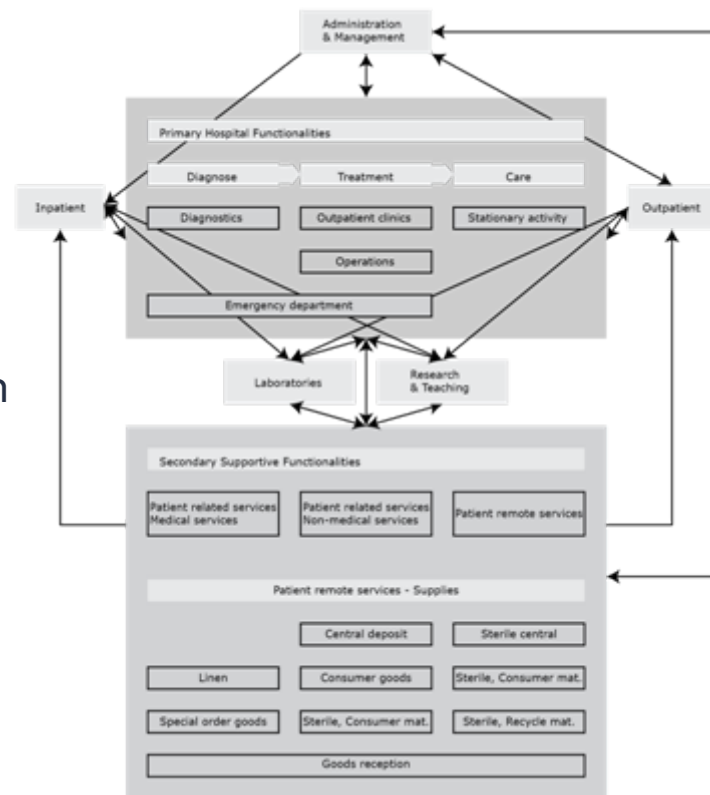
Outpatient Consultations			
Ambulant treatment	232,036	Placement	Centrally with easy access
		Light	Natural and Artificial
		Stay	minutes, Hours, days
		Hygiene	Medium

Diagnostic imaging			
Diagnostic imaging	191,766	Placement	Centrally with easy access
		Light	Artificial
		Stay	Minutes, Hours
		Hygiene	Medium

Service functions			
		Placement	Access to remaining functions
		Light	Natural and Artificial
		Stay	Personnel: Day/Night-stays
		Hygiene	Low

Logistics

- Primary hospital functionalities
- Secondary supportive services
 - patient-related medical services
 - patient-related non medical services
 - patient-remote services



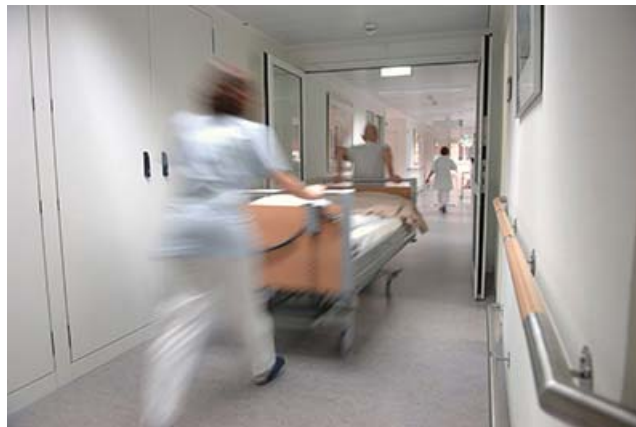
Patient Procedure

- Network describing patient routes throughout hospital



Discussions

- Quantitative and Qualitative Parameters
 - Construction costs
 - Operating cost
 - Hospital procedures and patient safety
 - Patient procedures
 - Hospital flexibility
 - Healing architecture and evidence based design



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Masterminding Sustainable Progress