

*Ministry of Health and Medical Education*

Minimum Requirements and Standards in design  
of the Hospitals

**Office for Development of Physical Resources**

**Feb. 2016**

# Physical Infrastructure for Provision of Health Services in Iran

- The main role of the Ministry is protecting and promoting public health
- Health care and public health services are provided through a nation-wide network
- This network consists of a referral system, starting at primary care centers in the periphery going through secondary-level hospitals in the provincial capital and tertiary hospitals in major cities.
- The public sector provides primary, secondary, and tertiary health services.
- Developing and upgrading adequate and appropriate infrastructure , physical spaces and equipment for provision of health and curative services, including medical education is one of the important tasks of MOHME.

# Minimum Requirements and Standard in design of the Hospitals

- Guidance and Instruction on selection of the land considering following criteria
  - Accessibility
    - Convenient and easy access to the main roads and highways,
    - Smooth traffic
    - Proximity to main entrance of the city
    - Easy access to the Public transportation
  - Neighborhood
    - Avoiding neighborhood to residential areas, schools, Gas station, military areas, airport, factories, sport centers, cemetery....

# Minimum Requirements and Standard in design of the Hospitals

- Guidance and Instruction on selection of the land considering following criteria
  - Future development
    - Sufficient land and spaces for future development,
    - Appropriate Modulus Design pattern
  - Existence of required infrastructures
    - Availability of Electricity, Water, Gas, Telephone, etc....
  - Economical factors
    - Minimizing cost of the land acquisition

# Minimum Requirements and Standard in design of the Hospitals

- Guidance and Instruction on selection of the land considering following criteria
  - Cultural, Environmental and Geographic factors
    - Considering the cultural issues
    - Geographic and environmental criteria such as topography of the land, avoiding mountainous land, fault , rivers, lake, cemetery , etc..
    - Ethnic and regional specific consideration
  - Physical plan, surface, specification and dimension of the land
    - Appropriate design and spaces responsive to the actual and future needs, adequacy of the surface of the lands for construction of hospitals ( Approximately 100 square meter per bed) , proportionality of the land (Rectangular land )
  - Safety and Passive Defense

# Minimum Requirements and Standard in design of the Hospitals

- Design criteria of Peripheral and premises
  - Maximum of the land occupied by the hospital 30%
  - Sufficient Parking spaces for personnel and visitors
  - Parking for outpatient
  - Helipad
  - Green spaces

# Minimum Requirements and Standard in design of the Hospitals

- Structural Design

- Approval of architectural plan by the Ministry
- Iranian National codes ( last issued Year 1392) section 9 design and construction of reinforced concrete structure and section 10, design and construction of steel structure
- Issuance no. 4 of standards 2800
- Using structural design software Etabs, Sap2000, Safe

# Minimum Requirements and Standard in design of the Hospitals

- Criteria and pattern for design of Hospitals
  - Matching of design with the regional and geographic ambiances and requirements
  - Respecting the traditional and cultural design and Iranian architecture
  - Responsiveness to the operational relation of the different departments and wards in the hospital
  - Flexibility of design for the future expansion and development (very important in Iranian context)
  - Design of Mega Hospitals including all the specialties and medical services in semi independent departments



# Minimum Requirements and Standard in design of the Hospitals

- Criteria and pattern for design of Hospitals
  - Hospital Entrances, separated entrances for:
    - Main entrance
    - Emergency entrance
    - Outpatient ( clinics, laboratories, physiotherapy, radiology, CT scan, Scopies, ....
    - Maternity ward
    - Visitors
    - Logistical services
    - Administration, Management and educational and research spaces
    - Residential space for physician and patients companions

# Minimum Requirements and Standard in design of the Hospitals

- Criteria and pattern for design of Hospitals
  - Internal Spaces
    - Appropriate locating of the hospital wards
    - Smooth internal connection considering operational requirements of different hospital units/wards
    - Safety and Security
    - Capability and capacity of the hospital to provide medical services after natural disasters
    - Flexibility for future development

# Minimum Requirements and Standard in design of the Hospitals

- Current policy and approaches in design of hospitals
  - Construction of low cost and efficient hospitals
  - Sustainable Development
  - Construction of Mega Hospitals
  - Contextual Design
  - Smart Hospitals
  - Participative design
  - Energy saving and Green hospitals

# Minimum Requirements and Standard in design of the Hospitals

- Current policy and approaches in design of hospitals
  - Appropriate distribution of the hospitals
  - Flexibility of the hospitals for increasing the beds in time of natural disasters
  - PPP in design, build and operation of the hospitals
  - Value Engineering
  - Passive Defense in the selected Mega Hospitals

# Minimum Requirements and Standard in design of the Hospitals

Standards providing minimum requirements for design of the hospitals

Office for Development of Physical Resources published of the standards for planning and design of hospitals (12 volumes)



# Minimum Requirements and Standard in design of the Hospitals

- First volume: Inpatient Wards/General Surgery
- Second volume : ICU wards
- Third volume : CCU wards
- Fourth volume : PCCU wards
- Fifth volume : Maternity wards
- Sixth volume: Emergency ward
- Seventh volume : Surgery wards
- Eight volume : Neonatal wards
- Ninth volume : CSR sterile wards



# Minimum Requirements and Standard in design of the Hospitals

- Tenth volume : General Standards and requirements in design of hospitals
- Eleventh volume : The regulations and criteria for selection of mobile hospitals
- Twelfth volume: Clinical Laboratories



# Minimum Requirements and Standard in design of the Hospitals

- The standards provide minimum requirements and cover the following issues
  - The appropriate and required links and connections between different ward including related diagrams
  - Various services in hospital including medical, nursing, pharmaceutical, and logistical services
  - Provision of physical program for each diagnostic, medical, logistical, etc.....



# Minimum Requirements and Standard in design of the Hospitals

- The standards provide minimum requirements and cover the following issues:
  - General requirements for design of internal spaces, location, internal connection, doors, materials, emergency exits, lighting, sound, color, ....
  - Finishing specification for each ward
  - Doors and Windows specification for each ward
  - Medical equipment for each ward
  - Electrical and Mechanical equipment

# Hospital projects

- Evaluation of the costs of construction
- Construction costs : 100.000 USD per beds
- Equipment Costs : 50,000 USD per beds
- The estimated costs for construction and equipment of hospitals at the time being is about 150,000 USD per bed.

**Thank you for your attention**