
Professional Certificate in Healthcare Infrastructure Management

Healthcare Facility Design and Planning

Healthcare Facility Design and Planning is a critical area of study in the Professional Certificate in Healthcare Infrastructure Management. This field focuses on the design, construction, and maintenance of healthcare facilities to ensure they meet the needs of patients, healthcare providers, and staff. In this explanation, we will discuss key terms and vocabulary related to healthcare facility design and planning.

1. Evidence-Based Design:

Evidence-Based Design (EBD) is a approach to healthcare facility design that is based on scientific research and data. EBD focuses on creating healthcare facilities that promote healing, improve patient outcomes, and increase patient and staff satisfaction. EBD takes into account factors such as natural light, noise levels, and access to nature to create healing environments.

Example: A hospital that uses EBD principles may incorporate large windows to allow for natural light, quieter HVAC systems to reduce noise levels, and healing gardens to provide patients with access to nature.

Practical Application: When designing a healthcare facility, it is essential to consider EBD principles to create a healing environment that promotes positive patient outcomes.

Challenge: Incorporating EBD principles into healthcare facility design can be challenging due to cost constraints and limited research in some areas.

2. Patient-Centered Design:

Patient-Centered Design is a approach to healthcare facility design that focuses on the needs and preferences of patients. Patient-Centered Design takes into account factors such as accessibility, privacy, and comfort to create healthcare facilities that are welcoming and user-friendly.

Example: A hospital that uses Patient-Centered Design principles may have private patient rooms, clear wayfinding signage, and comfortable seating areas for families.

Practical Application: When designing a healthcare facility, it is essential to consider Patient-Centered Design principles to create a welcoming and user-friendly environment for patients.

Challenge: Incorporating Patient-Centered Design principles can be challenging due to space constraints and the need to balance patient needs with those of healthcare providers and staff.

3. Functional Programming:

Functional Programming is a process used in healthcare facility design and planning to define the functions and requirements of a healthcare facility. Functional Programming involves creating a detailed program that

outlines the spaces, equipment, and technology needed to support healthcare delivery.

Example: A Functional Program for a hospital may include detailed specifications for operating rooms, imaging equipment, and patient rooms.

Practical Application: When designing a healthcare facility, it is essential to use Functional Programming to ensure that the facility has the necessary spaces, equipment, and technology to support healthcare delivery.

Challenge: Creating a Functional Program can be a time-consuming and complex process, requiring input from multiple stakeholders.

4. Space Planning:

Space Planning is the process of designing the layout of a healthcare facility to optimize the use of space and support healthcare delivery. Space Planning involves considering factors such as patient flow, staff movement, and equipment placement to create an efficient and functional healthcare facility.

Example: A Space Plan for a hospital may include a centralized nursing station, patient rooms arranged around the perimeter of the unit, and clear pathways for staff and equipment.

Practical Application: When designing a healthcare facility, it is essential to use Space Planning to create an efficient and functional layout that supports healthcare delivery.

Challenge: Space Planning can be challenging due to the need to balance competing demands for space and the need to accommodate future growth and expansion.

5. Infection Control:

Infection Control is a critical aspect of healthcare facility design and planning. Infection Control involves creating healthcare facilities that minimize the risk of infection and promote a clean and safe environment for patients and staff.

Example: A hospital that prioritizes Infection Control may have dedicated hand washing stations, positive pressure rooms, and strict cleaning protocols.

Practical Application: When designing a healthcare facility, it is essential to prioritize Infection Control to create a safe and clean environment for patients and staff.

Challenge: Implementing Infection Control measures can be challenging due to cost constraints and the need to balance infection prevention with other design considerations.

6. Sustainable Design:

Sustainable Design is an approach to healthcare facility design that focuses on creating environmentally friendly and energy-efficient facilities. Sustainable Design involves considering factors such as energy use, water conservation, and waste reduction to create healthcare facilities that have a minimal impact on the

environment.

Example: A hospital that uses Sustainable Design principles may have a green roof, solar panels, and water-efficient fixtures.

Practical Application: When designing a healthcare facility, it is essential to consider Sustainable Design principles to create environmentally friendly and energy-efficient facilities.

Challenge: Implementing Sustainable Design measures can be challenging due to cost constraints and the need to balance sustainability with other design considerations.

7. Building Information Modeling (BIM):

Building Information Modeling (BIM) is a process used in healthcare facility design and planning to create a 3D model of the facility. BIM involves creating a digital model of the facility that includes detailed information about the building's components, systems, and functions.

Example: A hospital that uses BIM may have a 3D model of the facility that includes detailed information about the building's HVAC system, plumbing system, and electrical system.

Practical Application: When designing a healthcare facility, it is essential to use BIM to create a detailed 3D model of the facility that can be used for planning, construction, and maintenance.

Challenge: Implementing BIM can be challenging due to the need for specialized software and training.

8. Facility Management:

Facility Management is the process of operating, maintaining, and managing a healthcare facility. Facility Management involves overseeing the day-to-day operations of the facility, including maintenance, repairs, and renovations.

Example: A hospital that prioritizes Facility Management may have a dedicated facility management team that oversees the maintenance and repair of the building's systems and components.

Practical Application: When designing a healthcare facility, it is essential to consider Facility Management to ensure that the facility can be operated and maintained efficiently and effectively.

Challenge: Managing a healthcare facility can be challenging due to the complexity of the building's systems and components and the need to balance maintenance with patient care.

In conclusion, Healthcare Facility Design and Planning is a critical area of study in the Professional Certificate in Healthcare Infrastructure Management. Understanding key terms and vocabulary related to healthcare facility design and planning, such as Evidence-Based Design, Patient-Centered Design, Functional Programming, Space Planning, Infection Control, Sustainable Design, Building Information Modeling (BIM), and Facility Management, is essential for creating healthcare facilities that are safe, efficient, and user-

friendly. By incorporating these principles into healthcare facility design and planning, we can create healing environments that promote positive patient outcomes and improve the overall healthcare experience for patients, healthcare providers, and staff.