

Healthcare Design for Evidence Based Patient Centered Care: An overview of Saudi Arabia Facility

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ABSTRACT

With emerging trend and technology advancement the current state of healthcare design urgent attention and the contemporary Healthcare design elements will be discussed in this paper with an emphasis on the technical aspects and new trends in evidence-based patient centered care healthcare facility design. The primary goal is to bridge the gap between Architectural Design and emerging facility standards by identifying and suggesting factors that could influence the design opportunities and challenges associated with healthcare outcomes in order to achieve high quality outcomes from appointments, admission to discharge and follow up involves priority, safety, privacy, dignity, efficiency and satisfaction.

Key factors of patient centered care quality, such as patient preferences, emotional support, physical comfort, continuity and transition, information & education, Care Access, coordination, family and friend participation for design elements requirement.

This paper shall employ qualitative research technique utilizing review of various design guidelines and observations to gather qualitative data and conduct an analysis of practicing healthcare facilities in Saudi Arabia in order to get evidence-based patient centered care design elements. The analysis will identify the key drivers with recommendations for design elements that prioritize preferences, comfort, and safety to enhance quality outcomes with higher satisfaction.

.Keywords Healthcare Facility, Design elements, Patient Centered Care, Quality, Outcomes.

1. Introduction

Ensuring the public's health is a top priority for local governments. Accordingly, a fundamental transformation of national healthcare systems is essential to ensure all citizens have access to high-quality, safe, and acceptable medical services. This aligns with UN Sustainable Development Goal 3, which aims to ensure healthy lives and wellbeing for all. The Institute of Medicine defines good-quality care as safe, effective, timely, efficient, equitable, and patient-centered - meaning it respects and responds to individual patient preferences, needs, and values.

Improving patient-centered care requires several key elements: basing care on continuous, healing

relationships; customizing care to patients' unique needs and values; and empowering patients as the primary decision-makers. Additionally, transparency and freely sharing knowledge are crucial to effective patient-centered care. Ultimately, understanding patients' perspectives are essential for delivering high-quality, patient-focused care, as patient-centered care is one of the six recognized domains of overall care quality [1].

The healthcare system in this nation suffers from significant disparities in the quality of services provided to patients. This is largely due to the lack of standardized protocols and treatment pathways, as well as incomplete evaluation of patient procedures and outcomes. Primary care remains inadequate and inconsistent. The distribution of secondary and tertiary hospitals, along with their resources, is uneven across the country. The current system places greater emphasis on managing resources and staff rather than prioritizing the needs of patients and the population. Furthermore, it is oriented around institutions rather than the population it serves. An effective healthcare system must be readily accessible and attentive to the comprehensive well-being of patients [2].

The WHO's 2015 global strategies, discussed during the 138th Session of the Executive Board, support integrated, people-centered care systems through a resolution that outlines a universal vision. This adaptable Framework can be implemented across countries with diverse income levels and healthcare capacities. Enhancing healthcare facilities has the potential to significantly benefit individuals by improving access to care, health outcomes, health literacy, and self-care practices. Additionally, it can increase patient and provider satisfaction, service efficiency, and cost-effectiveness [3].

Patient-Centered Care is a modern healthcare approach that establishes a partnership between patients, their families, and healthcare providers. By redesigning facilities and procedures, this approach provides patients and families with quick access to reliable health advice, effective treatment from trusted professionals, clear information, support for self-care, and emotional support. Patients and families are considered active partners in treatment decisions and the care process. Rather than a rigid methodology, Patient-Centered Care is a continuously evolving approach [4].

Effective patient-centered care requires a holistic approach, where it is deeply integrated into all hospital operations - from leadership strategies to staff development. This should also involve actively engaging patients and their families in the treatment plan. Facility design is a crucial component, with features like private patient rooms with family accommodations, decentralized nursing stations, and improved wayfinding all helping to directly or indirectly enhance the patient experience. Respecting patients, coordinating care, encouraging mutual communication, providing physical comfort and emotional support, and involving the family all help facilitate the transition from hospital to home and ensure easy access to person-centered healthcare [5].

1.1 Patient Preferences/ priority: Tailoring the physical environment to accommodate individual patient needs and preferences is often key to their satisfaction. Allowing patients to control aspects of their care experience and participate in decision-making about their health can greatly improve their overall experience.

1.2 Physical Comfort: The facility prioritizes patients' physical comfort to effectively manage their pain, anxiety, discomfort, and other difficulties. The room controls and infrastructure design are tailored to accommodate the physical comfort and needs of each patient.

1.3 Care Coordination: Effective communication among patients, their families, staff, and management are crucial to ensuring appropriate care at every stage of the clinical process and delivering positive patient experiences.

1.4 Emotional Support: Illness often brings unpleasant experiences, such as heightened pain, stress, fear, and anxiety. To help alleviate these emotional burdens, the design of a home-like or hotel-like environment can incorporate elements that provide a sense of familiarity and emotional support, such as artwork and community-themed paintings.

1.5 Access to Care: The system emphasizes the easy availability and accessibility of specialist care and appointments, allowing patients to receive the necessary treatment without having to travel to multiple locations for inpatient and outpatient services.

1.6 Transition and Continuity of Care: The program focuses on the patient's entire journey, from entry to post-discharge care. It aligns the shared interests of both the provider and patient to ensure a smooth recovery and better health outcomes after treatment. This helps facilitate a seamless transition and continuity of care, including patient education, post-discharge care, and coordination of follow-up appointments

1.7 Patient Empowerment: Sharing health information with patients is a core activity that can empower them and help avoid errors. It is especially important to provide transparent medication education, as this allows patients to receive their prescriptions with the most accurate and appropriate medication plans.

1.8 Involvement of Family and Friend: Actively involving family and friends in the care plan is the most critical element.

The key aspects of the patient's experiences include: choice of provider, access and waiting times, confidence and trust in health professionals, information and communication, involvement in treatment decisions, availability of staff when needed, hygiene and cleanliness (including hand-washing), food and physical environment, access to records and medical communications, being treated with respect and dignity for overall satisfaction [6].

2. Literature Review

Numerous studies have shown that patient-centered care yields significant advantages, including enhanced care experiences, improved clinical outcomes, and more efficient operations. Furthermore, research confirms that collaboration among healthcare stakeholders - administrators, providers, patients, and families - leads to higher quality and safer care, lower costs, and greater satisfaction for both providers and patients. Many Research suggests that adopting patient-centered strategies can provide significant benefits for patients with chronic illnesses. These strategies can enhance disease management, boost satisfaction for both patients and healthcare providers, increase patient engagement and adherence to treatment plans, alleviate anxiety, and ultimately enhance the overall quality of life for these patients [7].

Adopting a patient-centered approach not only enhances patient satisfaction, but also boosts employee satisfaction and retention. This correlation is rooted in the core principles of patient-centered care, which emphasize supporting and valuing staff. When employees feel supported, they are empowered to provide optimal, consistent care to patients.

Over the past three years, below data showing substantial quality improvements across multiple areas, key highlights include: patient satisfaction soared from 10th to the 95th percentile, rate of Discharge increased by 15%, Average length of stay in stay in Neurosurgery dropped by 50%, Medical errors declined by 62%, the staff vacancy rate of plummeted from 7.5% to 0, and a positive shift in the perception of the unit by both doctors and staff [8].

The modern concept of patient-centered care is largely based on research conducted by the Picker Institute in collaboration with the Harvard School of Medicine. This research, originally documented in the book "Through the Patient's Eyes: Understanding and Promoting Patient-Centered Care," identified eight key dimensions of patient-centered care: respect for patient preferences and values, emotional support, physical comfort, information and communication, care continuity and transitions, care coordination, involvement of family and friends, and access to care. The Picker framework was groundbreaking in its focus on the patient's perspective, serving as the foundation for NRC Picker surveys that measure patient experiences of healthcare. Specifically, the Picker measures assess experiences across eight key areas: access to reliable health advice, effective treatment from trusted professionals, involvement in decisions and respect for preferences, clear information and support for self-care, attention to physical and environmental needs, emotional support and empathy, involvement and support for family/caregivers, and continuity of care. By evaluating performance in these domains, healthcare organizations can identify opportunities for improvement to enhance the overall patient experience [9].

Grounded in a philosophy of patient education, family involvement, and increased access to health information, the Planetree approach radically transformed healthcare delivery to prioritize a person-centered, holistic model that promotes mental, emotional, spiritual, social, and physical healing environment [10].

Numerous nations, both developed and developing, are actively pursuing the transformation to a patient-centric

model of healthcare.

USA: The Patient-Centered Outcomes Research Institute (PCORI) involves patients in its research and consults them to help shape the organization's strategic direction.

Sweden: The center's overarching goal is to thoroughly investigate person-centered care (PCC) from the perspectives of the individual and their daily routines, which forms the foundation for person-led care planning. This approach has been shown to yield positive outcomes, such as reduced hospital stays and improved functional abilities.

Australia: The National Health and Hospitals Reform Commission have recommended 'people- and family-centered care' as the primary guiding principle for healthcare delivery.

Canada: The Canadian Association for People-Centered Health's Connected Health & Wellness Project (CHWP) aims to improve health and wellness through innovative, patient-focused initiatives.

UK: The International Alliance of Patients' Organizations (IAPO) www.iapo.org.uk

KINGDOM OF SAUDI ARABIA: Vision 2030 aims to improve healthcare by enhancing the quality and consistency of services, as well as the performance and accountability of healthcare organizations and staff in delivering safe, effective, timely, and equitable patient-centered care.

India: India's Vision 2035 for Public Health Surveillance aims to integrate the three-tiered health system and strengthen community-based surveillance.

WHO: Step wise approach to include Digitized person-centered approach. The 34 member countries of the OECD (Organization for Economic Cooperation and Development) have adopted "patient-centeredness" or "responsiveness" as one of three key dimensions of healthcare quality at the global level [11].

The core principles of patient-centered care design emphasize dignity, respect, and a holistic approach. This model seeks out and honors the perspectives, choices, knowledge, values, beliefs, and cultural backgrounds of patients, families, and communities. People-centered care views individuals as whole persons, not just their diseases, considering them within the context of their daily lives, family, community, and the full life course from childhood to old age, from a biopsychosocial perspective, the paramount treatment objective is to maximize patients' quality of life. Within a people-centered approach, power and responsibility are shared among patients, healthcare providers, and communities, enabling people to participate as partners in their own health and that of their community, according to their abilities and preferences [12].

In a patient-centered care model, patients and families actively participate in efforts to drive improvements. They may provide input through focus groups, satisfaction surveys, advisory councils, ombudsman programs, and other channels. Patients and families can also get directly involved by reviewing facility plans, testifying to government agencies, and educating staff, families, and the community about changes. Empowering patients and families with meaningful roles in healthcare operations can motivate their continued involvement. Healthcare organizations have a critical responsibility to carefully consider and promptly act on patient and family feedback [13].

If an organization follows these recommendations, it would generally exhibit the following attributes:

Patients should have access to reliable health advice, effective treatment from trusted professionals, and involvement in decisions with respect for their preferences. Clear, understandable information and support for self-care, along with attention to physical and environmental needs, are essential. Emotional support, empathy, and respect should be provided, with involvement and support for the patient's family and caregivers. Continuity of care and smooth transitions between different healthcare settings are also important [14].

To assess evidence-based patient-centered design in healthcare facilities, this research carefully selected eight design evaluation tools, standards, and guidelines. These include [refer Annexure-1],

JCI (Joint Commission International): The standards provide an objective evaluation process that helps healthcare organizations measure, assess, and improve their performance. They focus on essential patient, individual, or resident care as well as organizational functions that are critical to delivering safe, high-quality care.

The Clinic Design Post Occupancy Evaluation Tool Kit (CDPOE) from center of Health Design: When designing a specific healthcare facility, the clinic's post-occupancy evaluation (POE) should focus on how the environmental design supports the achievement of that facility's organizational goals. During the design process, these goals are translated into specific design intents, principles, and features. The resulting design decisions then create environmental conditions (e.g., lighting, window views) within the completed building. After occupancy, these environmental conditions can impact healthcare outcomes, such as patient satisfaction. The POE findings can then be used to confirm if the original design intents were realized, and to adjust organizational goals for future renovations or construction projects.

PRPOE (Patient Room Post Occupancy Evaluation Tool from Center of Health Design): Evaluating buildings and providing feedback are essential for the ongoing enhancement of the built environment. Post-occupancy evaluation (POE) systematically and thoroughly assesses structures after construction and occupancy, yielding insights to drive improvements.

Guidelines for Design and Construction of Healthcare facility FGI 2018: The Guidelines are the most widely recognized standard for planning, designing, and constructing health and residential care facilities. These comprehensive documents consolidate the minimum requirements for program, space, risk assessment, infection prevention, architectural details, surfaces, built-in furnishings, and building systems into one convenient reference. State and federal agencies use the Guidelines to regulate new construction and major renovations of healthcare and residential care facilities.

Saudi building Code (SBC201): The building code outlines performance requirements to control fire growth by restricting the use of interior finish and decorative materials. Past fire incidents have demonstrated that these materials are critical factors in the development and spread of fires within buildings.

Ministry of Health (MOH 2021): To develop an integrated, sustainable health system that prioritizes public health, promotes prevention, delivers comprehensive and personalized healthcare, cultivates competencies, and fosters innovation.

Center for Disease Control and Prevention Work healthcare Score Card (CWHSC) from the centers for Disease Control and Prevention (CDC): a tool designed to help employers assess the extent to which they have implemented evidence-based interventions or strategies at their worksites to improve employee health and well-being. We examined how broadly the Scorecard has been applied and to what effect, tool designed and validated to help employers assess the extent to which they have implemented evidence-based health promotion intervention or strategies at their worksites to improve the health and well- being of their employees tool designed and validated to help employers assess the extent to which they have implemented evidence-based health promotion interventions or strategies at their worksites to improve the health and well-being of their employees.

Leadership in Energy & Environmental Design (LEED): U.S. Green Building Council (USGBC) runs this program, it aims to improve the performance of building and construction projects across seven key areas related to environmental protection and human health. The criteria were established by evaluating the built environment, including interior spaces, human health and wellness factors, and design elements focused on enhancing quality of care and the patient experience [refer fig-1].

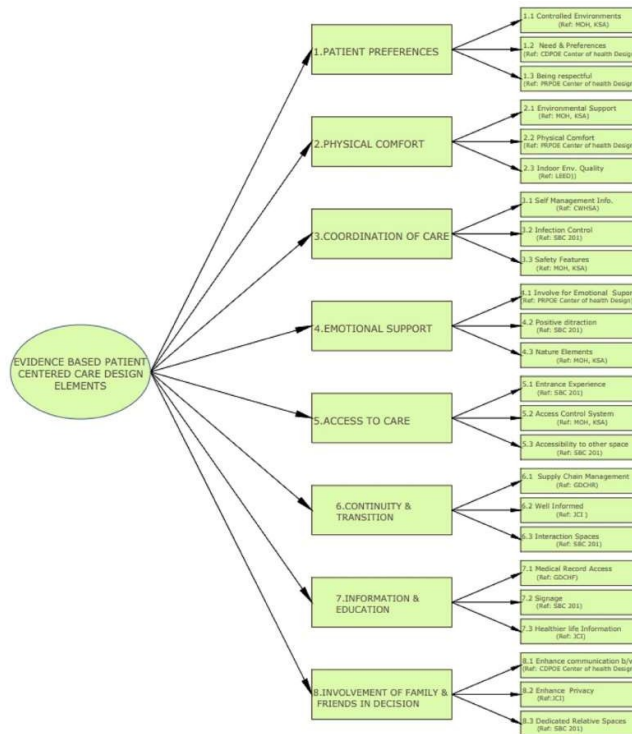


Figure 1: Patient Centered Care & Associated Design Elements

To identify area of improvement SWOT analysis for patient centered care analysis has been a helpful and successful tool, strength identified as Improve quality, improve Access to accurate information, increased & better cost savings, decreased in medical errors, enhanced paperless environment with better improved data storage without Data Loss, Weakness identified as Limited resource and Access, Lack of Interest & Participation, Lack of e health services, Lack of Accountability and effective system integration, Opportunities identified as improvement of Quality of Healthcare services, Effective & efficient resources utilization procedure, public awareness & community support program, improvement inpatient experience & satisfaction and Threats identified as Lack of commitment & seriousness, ineffective & inefficient policy, rapid changes in technology & Information Technology systems for patient perception on privacy and confidentiality of Health data[15].

3. Methodology

To examine this topic, we conducted a systematic literature review to explore evidence-based healthcare design principles related to the Patient-Centered Care Approach. They drew from relevant Healthcare Design Guidelines found in academic and research sources, including books, journal articles, and online publications.

This study used a mixed-methods approach, combining a literature review and analysis, to gather qualitative data on the healthcare-built environment and the physical infrastructure attributes that support patient-centered care design. The factors analyzed in this review formed the basis for examining the characteristics of patient-centered care design projections as shown in Fig.2.

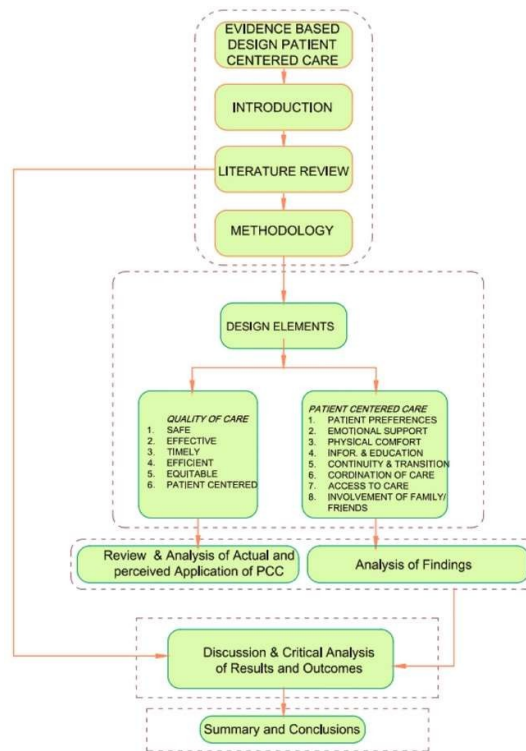


Figure2: Methodology

This study examines the operational patterns of private healthcare organizations in the Kingdom of Saudi Arabia.

4. Design Elements consideration

The main objective of this study to identify key design elements of patient-centered care in order to inform the design of healthcare facilities that prioritize patient safety, privacy, dignity, and preferences across the eight categories outlined below.

Patient Preferences: The environment should be designed to help users easily identify the care they will receive, while prioritizing respect, dignity, and a suitable level of privacy for each individual.

Physical comfort: The patient's comfort was the guiding principle in designing the interior spaces and finishes. The environment supports physical activities through carefully controlled temperature, humidity, lighting, airflow, and pleasant, fresh odors.

Coordination of Care: This pertains to patient self-care, infection prevention, maintaining cleanliness and order, and implementing safety measures.

Emotional Support: Incorporating soothing music, natural scenery, and artwork can create a comfortable, calming environment that helps reduce patient anxiety and stress. Similarly, providing access to natural light and views of nature can contribute to the healing process, alleviating pain and discomfort for patients, their families, and staff.

Access to Care: To create a welcoming experience, healthcare facilities should ensure positive first impressions from the moment patients and their families arrive. This includes maintaining well-marked parking, an inviting main entrance lobby, efficient reception and waiting areas, and a clearly identified information desk. Furthermore, clear signage should be placed at the entrances to specific units, outpatient clinics, and the Emergency Department to help patients navigate the facility with ease.

The spaces should be designed to be easily accessible, aesthetically pleasing, and welcoming. In restricted areas,

implement access control, CCTV, alarm systems, clear signage, designated stretcher lots, wheelchair storage, and ensure a clear view of the drop-off and pick-up zones.

Continuity and Transition: A comprehensive discharge plan should address the logistics of supply chain management, ensure sufficient medical supply storage, leverage well-integrated information technology, and provide adequate spaces for patient-staff interaction.

Information and Education: The hospital provides well-organized patient record areas, clear signage, and a digital directory. Staff receives guidance and training in the administrative and support areas, which cover knowledgeable care procedures and a Healthier Life Nutritionist chart. The building features administrative and educational areas, digital signage, RFID/RTLS systems, an access control system, a public address system, a master clock synchronization system, an integrated building management system (BMS), and interactive kiosks. Careful planning of key IT infrastructure elements, such as the data center, IDF room, dedicated shafts, cable pathways, cable selection, and wall/finish types, is crucial for effective civil and infrastructure development.

Involvement of Patient/Family: In decision making, active participation required with allocate dedicated spaces for family and friends to gather, while also including private areas for Interaction spaces that offer increased privacy [refer Annexure-1]

PATIENT CENTERED CARE DESIGN ELEMENTS FOR HEALTHCARE FACILITY & QUALITY OUTCOMES (ANNEXURE-1)				
Elements	Introduction	Features	Details	Quality Outcomes
Patient's / User Preferences	To recognize & treat them in an atmosphere that is focussed on the patient as individual	User Controlled Environments	Adjustable furniture, adequate storage space for personal belongings, manual shading system	Controlled Environments
		Maintaining privacy during consultation & treatment	Overall experience of lighting, minimizing glare on the floor, providing efficient lighting for the purpose of circadian rhythm. , Temperatue & Window Curtains, Comfortable air quality	Maintain Privacy
		Being respectful, dignity & Values & needs	User faith, traditions, culture with Prayer areas or support area available	Being Respectful
Physical Comfort	To ensure that patient and consumer experience is as positive	Environmental Support for Physical Activities	Highly visible staircae, inetrior healing garden, meditation garden, indoor climbing wall, spcae for free body assessment.	Environmental support
		Physical comfort	Comfortable air temperature, relative humdity, and flow speed, no unpleasant smell, air quality & freshness, appropriate temp. in season	User Comfort
		Ensure Interior spaces appealing	Harmonized color, finishes, materials, nature themed artworks	Indoor Env. Quality
Cordination of Care	can ease and reduce the patient's feeling of vulnerability	Providing self management information	Visibility within space, connectivity, walking area, Kspace for special group of people. drinking water,, wireless connection, clock, kiosks, display for information, clear signage	Self Management Info.
		Infection Control System, Cleaness & maintenance	Plenty of sinks and for Alcohol gel dispensers in visible and accessible locations, reminders for hand wash .Sanitation, . Cleanliness of Overall waiting area, maintenance, public restroom	Infection Control
		mplementing patienty safety strategie	Preventive falls, floorings, evacuation map, Fire compartmentation zoning, Fire hazards	Safety Features
Emotional Support	To make them feel comfortable and relaxed by	Healthcare professional work as a team in a care delivery. Involves in emotional support	Visibility withing space, spatial connectivity, Variety of seating options for different group sizes, wide age groupd and size variations	Involve for Emotional Support
		Healthcare professional pay attention to anxiety about situatin,Noise free environment	Soothing music and nature sounds are accessible to patients, Sound-absorbing ceiling tiles and other noise-reduction measures are used so that the waiting area is quiet	Positive Distrctations
		Nature Elements, Indoor elements	Indoor plants, outside nature, artworks, window views, and/or other pleasant stimuli are visible for most staff members.	Indoor nature Elements
Access to Care	To know what can access when it is needed	Entrance Experience	Covered Area for Vehicle drop off & pick up proximity of parking lots, pedestrian entrance, clear signage, stretcher lots, Wheel chair storage, view of drop off and pick up area	Entrance Experience
		Providing Access Control system	Protection devices, automatically closed door with alarms, CCTV, safeguard staff, adequate ext. lighting	Access Control System
		Acceptability to other space when they need	Gift shop, Caf, book store, busines center, family library, exercise facility on site, convenience store	Accessibility to other Space
Continuity & Transition	Want to know what to do when they get discharge plan	Proximity of Supplies	Medication, Utility, Printers and supplies are close to registration staff so that they do not need to stand up frequently and travel to retrieve supplies and printouts.	Supply Chain Management
		Patient well informed about care receive and contact person, Nurse Station	The nursing station is located centrally, providing visibility to the status of interaction spaces (e.g., exam rooms) and reducing staff traveling	Well Informed
		Sufficient patient-clinician interaction spaces	Enough clinician-patient spaces at patient flow points (vitals, exam rooms, procedure rooms, etc.) are available so there are no apparent bottlenecks due to the lack of spaces	Interaction Spaces
Information & Education	To know who is looking after them, what is happening, when, why & how.	Acces their care Record, suggestion of their own care	The medical records office is located close to both the check-in and interaction spaces	Medical Record Access
		Well informed about care process	The building design related to technology is flexible to accommodate potential changes in the medical and communication technologies.	Signage
		Responding to query, requests, concerns and complaint promptly	HCAPS Survey, technology rooms are either easy to expand or set aside extra spaces to accommodate additional equipment	Information of Healthier Life
Involvement of Patient's, Family & Friends in decision making	Family & friends are important as partners in healthcare	Enhance Communication b/w Patient/staff/family	Visual indicators such as color flags and lights clearly communicate to staff the presence of patient in each room and type of service needed.	Enhance Communication b/w Staff
		Encouraging family & carers in the plan of care with Visual & Auditory Privacy	Barriers in seating, privacy screens on registration area and kiosks	Enhance privacy
		Furniture layout facilitating communication, Larger Family visit room, teleconference area	Sufficient seating is available for individuals (including families, translators) who accompany the patient, Appropriate number of available family spaces to accommodate visitors.	Dedicated relative Spaces
<p>Note: Above Design features study adopted from eight existing Evaluation tools, Standard & Guideliens criterion for Healthcare facility, 1. JCI (Joint Commision International), 2. Patient Room Post Occupancy Evalaution Tool (PRPOE) from Center of Health Design, 3.Clinic Design Post Occupancy Evaluation Tool kit (CDPOE) from CHD 4. Guidelines for DesignandConstruction of Healthcare Facilities from FGI, 5.SBC 201 (Saudi Building Code), 6. MOH, KSA 2021), 7. Center for Disease Control and Prevention Work Health Score Card (CWHSC) From the Centeres for Disease Control and Prevention 8. LEED</p>				

Annexure-1

5. Inferences & Discussion

Well-informed patients can better assess and choose the most appropriate level of care. Further research is needed to develop evidence-based, patient-centered care models that align treatment with organizational goals.

This can lead to improved system management, enhanced safety, smoother care transitions, reduced unnecessary admissions, better health outcomes, increased self-management, decreased illness burden, improved quality of life, and cost savings through greater efficiency, utilization, and shorter hospital stays.

Timely access to quality care is essential for improving healthcare outcomes and reducing resource waste. Reinforcing an evidence-based, patient-centered care framework is crucial, ensuring it is supported by data, reflects patient needs and preferences, and promotes respect, comfort, safety, and satisfaction.

6. Conclusion

The purpose of this study to develop a framework for evaluating the organizational systems, processes, and practices needed to foster a continuously learning, patient-centered culture that enhances quality, patient loyalty, and engagement, driven by patient feedback.

Prioritizing patient experience is essential for delivering truly patient-centered care. It encompasses more than just ensuring patient satisfaction during treatment - it requires a comprehensive evaluation of the patient's entire care journey. By focusing on safe, timely, effective, efficient, and patient-centric care, organizations can drive improvements in patient engagement, satisfaction (for both patients and staff), clinical effectiveness, personalization, patient safety, and the admission/discharge processes.

A comprehensive analysis has revealed a strong correlation between various factors and improved patient experience. Based on these findings, the researchers have identified several promising design solutions, including private and public interaction spaces, decentralized care models, and designated staff areas. These innovations have the potential to enhance outcomes across a range of relevant variables. Moreover, this study shows that various elements of the patient experience - before, during, and after care - can influence adherence, communication, and the patient-provider relationship. Furthermore, the study emphasizes how the physical environment's design shapes the care model and enhances the overall experience for patients and their families.

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