

Towards Healing Environment for the Inpatient Unit in Psychiatric Hospital

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Abstract: *The internal environment of the psychiatric hospitals design is considered one of the most complex types of design processes that the architect deals with and the most difficult. The difficulties of the design stems from number of factors, such as the steady expansion of the technology of psychiatry, and development in the field of psychotherapy over the years, which in turn is reflected on the building's design and increasing the complexity of the design process. Recently the interest in improving hospital environments has increased and has become a major focus of the architectural design of this type of hospitals in order to convert the Psychiatric Hospital from buildings that provide treatment only to an environment that supports and promotes healing for patients. On the other hand, the research problem stem from the fact that most psychiatric hospitals in the Arabian region suffer from low functionality of the spaces efficiency and shortcomings in the achievement of functional requirements. So, research aims to highlight the modern and future trends in designing the inpatient unit in the psychiatric hospital to reach a set of considerations and standards which must be taken into account in the design of this type of hospitals, to improve the healing environment for this type of hospitals. The research follows the analytical inductive methodology through dividing the study into seven main parts: the first part includes important definitions related to the study, but the third part displays Design recommendations for Mental Health Hospitals, and the fourth part discusses the Key design concepts for designing inpatient mental health units. The fifth part discusses considerations of inpatient unit in psychiatric hospitals, the sixth part focus on studying one of the successful international models (Belfast Acute Mental Health Unit).*

Keywords: *positive healing environment, functional efficiency, patient needs, functional considerations, social considerations*

1. Introduction

Mental health facility design is a critical component of patient care. The design of mental health facilities affects how services are provided and the efficiency with which care is delivered. Facility design impacts the beliefs, expectations, and perceptions patients have about themselves, the staff who care for them, the services they receive. Moreover, facility design can also have a significant impact on the beliefs, attitudes, and behaviors of staff and on how staff identify and interact with patients and the environment. Over the past five to ten years, the field of mental hospital architecture has developed a wealth of expertise and understanding of the benefits that a good environment has a positive effect on the healing process of patients and the wellbeing of staff. This is inherently related with many considerations (functional, environmental, social, aesthetical, psychological and technological) especially within the interior environment. It is acknowledged that the choice of internal design, materials, and colors can have a significant effect on the quality of the environment. The internal surface materials such as wall finishes, ceiling and floor coverings have their impact on the internal quality of the building. The aim of this article is to examine and to understand the nature of interior spaces in acute mental

hospitals inpatient unit to facilitate the design process and to ensure excellent quality, effectiveness, efficiency, and consistency of mental health design. Focusing on how the mental hospital buildings and environment can be a positive healing environment. The study is intended to call attention to the importance of using sustainable design in inpatient unit rooms.

2. Definitions

2.1. Mental Health

The term mental health is defined as “psychological well-being or adequate adjustment, particularly as such adjustment conforms to the community accepted standards of what human relations should be in the Psychiatric Dictionary [Bilge, 2009]. Thus the violence character, self-harm and similar behaviors of the psychiatric patients could be considered while designing the mental hospitals. Mental health facilities provide residential rehabilitative and clinical care to patients who have a wide range of problems, illnesses, or rehabilitative care needs which can be medical, psychiatric, vocational, educational or social. The inpatient unit considers as structured and supportive residential environment as a part of the rehabilitative treatment.

2.2. Healing Architecture

A new architectural understandings interested in both human spiritual ecology and environmental ecology. (Figure1) show the mental health (Psychiatry) hospital healing environment.

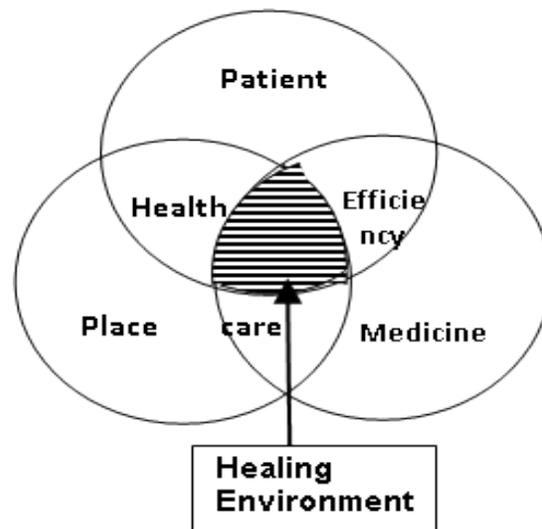


Fig.1: Mental health (Psychiatry) hospital healing environment.

3. Design Recommendations for Psychiatric Hospitals

This part presents a group of recommendations that help in designing Psychiatric Hospitals:

3.1. Location

Mental health units will be located within existing Medical Centers and within relatively close proximity to the Emergency Department. This allows convenient access for patients, families, staff and facilitates transport and the ability to treat co-morbid medical issues [Design guide,2010].

3.2. Efficiency

Minimize unnecessary travel distances for nursing staff to use support space and to reach patient rooms in an inpatient setting. Place most frequently used support areas closest to the central nursing area. Support spaces, such as storage and utility rooms, should be designed to be shared where possible to reduce the overall need for space [Design guide, 2010].

3.3. Flexibility

The design needs to respond to changing workloads, care objectives, and technologies, such as wireless technologies for staff. Standardization of unit layouts should be developed to reduce care team orientation to different units and to streamline maintenance of each unit. Spaces should be universally designed to accommodate a range of related functions [Design guide,2010].

3.4. Patient Privacy

Mental health facilities should be environments of healing that allow the building itself to be part of the therapeutic setting and process. The technical requirements to operate the building should be integrated in a manner to support this concept. Patient privacy should be maintained without compromising the operational realities of close observation, safety, and security [Design guide,2010].

3.5. Reducing Patient and Staff Stress

Design can be as an open layout with attractive views of the exterior, with no unnecessary barriers between staff and patient. Using natural light in staff/patient areas, taking into account the noise control. Also using of natural materials, a soothing color palette and residential character in the interior design of the facility will be so effective. Provide attractive, secure outdoor spaces and healing gardens directly off the unit [Design guide,2010].

3.6. Patient Safety

A key architectural objective should be to reduce emphasis on the institutional aspects of care and to surround the patient with furniture, furnishings, and fixtures that are appropriate from a safety standpoint but are more residential in appearance. Proper planning and design should appeal to the spirit and sensibilities of both patients and care providers [Design guide,2010].

3.7. Risk Reduction

The following facility detailing, and design concepts should be integrated into the project to reduce the following risks in mental health facilities [Design guide,2010]:

- **Stampeding:** Using courtyards instead of fenced outdoor areas and allow one way in and out of congregate areas; all spaces must be visible from staff offices and work areas. Also using electronic door controls for emergency egress as allowed by code.
- **Patient Behavioral Incidents:** Using appropriate abuse resistance in areas where patients are left alone for periods of time. Integrate technology to assist in observing and maintaining security in areas not readily visible to staff.

3.8. Indoor Zone Design

Layout should be free of blind corners, and incorporate an open bright design with non-institutional, home-like environment through careful attention to interior design elements, with visual and physical access to nature, which promotes healing. [Zeiss, R. A. 2006] Unit configuration should be based on promoting social engagement and interaction with staff and provide for a more domestic and less institutional feel by using a pod-like design and should be absent of long corridors in order to. [Zeiss, R. A. 2006] Portions of the unit, such as the offices, should be designed to be closed off after hours to reduce amount of area within the unit required to be supervised by staff. Indoor patient activity areas should have access to natural light and views.

3.9. Nursing station and reception area

The nursing station should have direct visibility of all patient wings and activity areas. The station itself should be designed to allow informal interaction with patients without compromising the confidentiality of patient records as shown in (figure2). Include an identifiable reception area for greeting patients and their families in a lobby area just outside the unit. In addition to functional benefits, a reception area sends a welcoming message to users. Sufficient signage should be placed to direct patients and families to this area [Zeiss, R. A. 2006] as shown in (figure3).

4.3. Aesthetical Considerations

Among all other considerations, the aesthetical considerations are the ones that achieve greater impact as they affect the hospital staff, visitors, patient relatives and patients healing process. In the aesthetical considerations the designers consider the color, texture, pattern of the material, as these affect the psychological and behavioral responses of the patients. [Marberry, S.,1996].

4.3.1. Colors

The right use of color in hospital interiors is very important in order to differentiate the surfaces and activities. Color can also be used to improve environmental quality, clarify the architectural elements in therapy rooms. Commonly, the colors of walls, floors and ceilings are not considered in isolation but the pattern on these surfaces and the forms of structural elements are important for the reflection or absorption of sound and light. The mental patient has difficulty in seeing in the shadows and requires brighter surroundings than those which are found in the normal hospital. It is crucially important for the hospital planners and designers who are deciding surface materials and wall coverings to understand the accessibility of natural lighting, the selection direct source and the lighting controls that will be available [Malkin, J.,1992]. Oranges and reds are warm colors, could be used in surfaces where there is more activity and socialization, while blues and greens are cool colors, and could be used in places where the activity level is low. The color most beneficial in making people feel calm is blue. Studies have shown that brighter colors: (whites, light grey and lighter colors) are found to be less arousing and less dominant than darker colors, grey and black [Jantzen, K.2012].

4.3.2. Finishing Material

Modulation, texture, pattern, color and their ability to display messages play utmost importance in determining the character and atmosphere of the significant space. Ceilings, walls and floors are different surfaces, so these should be classified by means of color, texture, and pattern. Also, door and window frames should be differentiated from other surface materials [Bilge, 2009]. Using surface materials that are both functional, easily maintained and also aesthetically pleasing in hospitals is very important, this helps in creating supportive environments for the patients' well-being. Considering the patients' illnesses and the medicines that they have been using during their therapy, the differences between the floor, wall and ceiling should be perceived properly and clearly in the inpatient rooms of mental hospitals. Generally the walls are painted with high gloss paint in pastel colors such as green, yellow or blue.

4.3.3. Avoidance of Visual Disturbance

Visual disturbance can take many forms, but mental health facility planners generally strive to provide a calm environment with ample space and minimal clutter – through color, light, furniture. Anecdotal evidence collated through user group interviews indicates that a calm environment free of technological distractions allows patients time and space to reflect. Something as simple as art selection can contribute to a calm atmosphere: studies on art in hospitals suggest that, in addition to benefits from access to nature, patients respond positively to art depicting nature. There is also evidence that inappropriate art styles can increase stress and worsen other conditions [Choudahry, R., 2004].

4.4. Social Considerations

4.4.1 Privacy

Many inpatient mental health facilities are moving toward having exclusively, or primarily, single occupancy rooms. An inpatient facility with all private patient rooms allows more patient assignment flexibility, enhances patient privacy, and reduces disruptions and incidents related to a shared patient bedroom. Single occupancy patient rooms have the benefit of being more private and having less noise, which may be agitating to some patients and can disturb sleep. Double occupancy rooms may be desirable for some patients for social or clinical reasons. The common military service background and the longer average length of stay in some inpatient facilities support having some double occupancy rooms in inpatient units. Based on discussions with mental health staff and contemporary approaches to inpatient mental health facility design in mental health care systems, it is recommended to provide 50% of the beds (25% of the total rooms) in an inpatient unit in double occupancy rooms [Davidson, B. 2005].

4.5.3. Observation

Closely related to security is the issue of observation, which is ideally achieved through passive surveillance. Innovative ways to increase the potential for staff to check on patients can be seen in a number of new facilities. Providing secure courtyards is becoming the standard approach, but there are other ways of maximizing observation without intruding on the patients. Wide corridors with regular gathering spaces enable a low key approach to observation, and single loaded corridors with uninterrupted views to external spaces also allow staff to continue with their work while keeping an eye on activities throughout the facility [Choudahry, R., 2004].

4.6. Technological Considerations

It is likely that technology will affect mental health design considerably in the future. Technology in mental health facilities provides benefits in enhancing security, communications, and patient care. Security enhancements include: door control, inventory control, and facility monitoring. Communication enhancements include: access to continuously updated patient treatment documentation by all appropriate members of a patient's interdisciplinary care team. A key component of the patient care includes "telemental health." refers to remote visual/audio communication between the patient and care team professionals. Individual consultations may utilize personal computers with a camera. This technology is important to ensuring continuity of care for those patients living in remote areas. All inpatient and outpatient facilities should have audio- and video-conferencing capability for both individual and group use. Furthermore, computer access is an important component of recovery and rehabilitation and should be incorporated into the design of inpatient and appropriate outpatient mental health facilities.

5. Case Study (Belfast Acute Mental Health Unit)

Location: Belfast, Northern Ireland, Design: Richard Murphy Architects, Client: Belfast Health and Social Care Trust, Services: Medical Planning, Mental Healthcare Design Consultancy.

The reason behind choosing this case study is that this project is considered one of the successful examples for the mental healthcare design, this project won a RIBA Award in 2015; it presented an effective healing environment for the inpatient unit. This new Community Primary Care Health Centre provides support for those in the North Belfast area coping with mental health issues. The building considered as a collection of units, arranged around a cloistered garden with 80 en-suite bedrooms, 74 acute mental health beds and 6 Psychiatric Intensive Care beds and many more communal and staff areas. This modern facility will support the development of Belfast Trust's Mental Health service and will offer high standards of treatment and evidence-based interventions for service users experiencing an acute phase of mental illness. The service will work with the individual and their family/care towards their recovery. The design team is worked at every level to create a human-focused and uplifting environment.

5.1. Functional Considerations

- **Accessibility for mental healthcare:** It is accessible to major transport links both road and rail, offers adequate parking facilities, and it's located close to acute facilities on the hospital site.
- **Master plan design:** Central to the design philosophy is that patients, staff and visitors experience the hospital as a journey between gardens rather than through dull corridors. From first arrival, the hospital entrance is at once an entrance and a gateway to a central garden. All five wards are accessed from this cloistered garden at the heart of the hospital (figure10). Each of the wards is in turn organized around its own intimate courtyard garden (figure11), divided in function by interconnecting paths. The entire building is serviced by a first floor services zone, so that building maintenance can be completely separated from clinical areas. Plan arranged the five main wards as rooms around a garden with bedrooms on three sides of the garden. A single sided glazed corridor acts as a quasi-cloister in each garden.
- **Main Entrance:** The entrance to the hospital is more of a "gatehouse" connecting the outside world to this circular court. Patients and visitors pass through this gatehouse and back into the world of the garden before entering their individual ward. The experience of using the hospital by patients is dominated by the experience of moving through gardens rather than moving through endless corridors.

5.6. Technological Considerations

In the buildings for Belfast mental hospital, motion and pressure sensors enable staff to know when a patient is out of bed. It is possible that this could overcome the intrusive and labor intensive checks throughout the night on acute patients in mental health. Individual GPS devices may help to monitor patient movement and remote diagnosis and monitoring may become prevalent.

6. Conclusion

Finally, it is important to understand that architecture should bear the responsibility to increase the beneficial potential of a facility than simply fulfills a building program. Designing a unit is not just a matter of fitting the required number of bedrooms and other essential spaces into a compelling design within budgets and time constraints. To ignore the models of care, staffing regimes, safety and security fears and realities and patient mobility issues – either conventional or specific to psychiatric conditions, means that facilities will be built to be deficient and unsuitable. Whenever any of those issues are ignored, they are met with a string of modifications, rules and routines, which compromise both accessibility and the whole model of care. Such compromises will affect patient and staff safety, patient competency, facility efficiency as well as patient and staff well-being. For this reason, a shift of paradigm is necessary not only for accessibility but for mental healthcare design in general.

7. Recommendations

- A key architectural objective for inpatient unit in healthcare design should be to reduce emphasis on the institutional aspects of care and to surround the patient with furniture, furnishings, and fixtures that are appropriate from a safety standpoint but are more residential in appearance.
- In the healing architecture it is important that the design of the hospital should enable the patients and the staff to be in touch with the outside environment as well as the inner environment. This harmony and balance is also related with the ecological design of the buildings.
- In the healing architecture it is observed that people respond more positively to traditional buildings which are more ecological and sustainable.
- The sustainable therapy rooms in the hospitals supports the healing process of the patients, the effective use of these rooms and also will have an enduring effect on the hospital's medical and clinical staff.
- Hospital building can be both sustainable and provide patients and the hospital staff major support in patient's treatment process.
- Methods must be developed to implement the findings of healing environments studies and its practical application into evidence-based design. This will allow an early intervention in the mental healthcare planning process.
- We must examine how a scientific treatment of design can be applied to the 'creativity processes'. The aim of all these considerations is to improve the quality of health buildings in line with the needs of the people with an architecture that promotes recovery from illness.

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