



ROLE OF HEALTHCARE-FACILITIES LAYOUT DESIGN, HEALING ARCHITECTURE, ON QUALITY OF SERVICES

Yasaman Parsia

Universiti Malaysia Pahang, Pahang, Malaysia

Puteri Fadzline Mohamad Tamyez

Universiti Malaysia Pahang, Pahang, Malaysia

ABSTRACT

These days, new and serious problems in field of healthcare, such as, increasing rate of infections, are alarming. Therefore, quality of treatment and health care services are even more vital than past. There are different elements which can be affected the quality of healthcare services. One of the most important element is healthcare facility (HF) layout design. If a HF presents good services of treatment by a specialized person in an inconvenient physical environment, it will increase healthcare risks such as infection, financial burden and low patient satisfaction. Based on a mini-literature review, this study tried to introduce the important of healthcare facility layout design and its role in quality of HF services. As a result, this study showed that HF with appropriate layout design can have a better outcome than the other one with unacceptable layout design. Therefore, it seems so necessity for all HFs and also government to put an appropriate attention, standard and guide to the beginning phase of HF building construction by a better layout design. Proper layout design decreases HF risks and increase customer satisfaction and service quality.

Key words: Healthcare Facilities (HF), Layout Design, Service Quality.

Keywords: Office, Eco-Office, Green-Office, Environment Management.

Cite this Article: Yasaman Parsia and Puteri Fadzline Mohamad Tamyez, Role of Healthcare-Facilities Layout Design, Healing Architecture, on Quality of Services, International Journal of Civil Engineering and Technology, 9(4), 2018, pp. 598–601.

<http://www.iaeme.com/IJCIET/issues.asp?JType=IJCIET&VType=9&IType=4>

1. INTRODUCTION

One of the important role of government in each country is presenting the best health outcomes for patients [1]. Therefore, quality of design is so noticeable in the context of Healthcare Facility (HF) building to have a healthy and active society [1]. Each HFs can achieve its purposes by some actions, such as, patient care, personnel-health education, health promotion and health related research [1]. Some issues should be considered during strategic planning of HFs to achieve good quality of services for patients and society are: 1)

sustainability (responding to future change, creating a therapeutic environment, innovative design, etc.) 2) infection prevention and control to reducing hospital infections [1].

Recent researches show that the design of HFs, and outcomes experienced by staff, patients, and families have strong connection [2]. There are some important and noticeable reasons that the design of HF physical environments can be responsible for increasing rate of mortality and infection, medical errors, slow speed of patient treatment, staff injury, and high nurse turnover [2]. Wasted time of working, economic lost, and performance disability could be the other disputable effects of bad layout design that remained unsolved but so important [2].

Some researches mentioned that some problems in HFs, such as, hazards and risks of health care-associated injury can be because of the bad design of the systems of care [2]. This problem more related to design rather than weak performance by providers [2]. The acceptable design of physical environment of HFs had lots of beneficial and occurred progresses in satisfaction of patient and health [3]. It also increases the staff satisfaction, reduction in healthcare costs, and delivery of medical care [3]. The purpose of this study is presenting a better description of the role of layout design of HFs. This study also give explains on the effect of layout of HF and how it improve quality of services. This study is based on a mini literature reviews.

2. COMMENTARY

The physical design of HF has a paramount role in a HF infection control-process, incorporating infection control-issues to reduction the risk of infection transmission [4]. An appreciated design of HF environments can prevent risks and hazards [2]. It also prepare suitable psychological atmosphere to improve patient condition and increase speed of his recovery and healing [2].

As mentioned above, correct standard and standard design of HF (organization of departments) has an important role in safety and health of society. Recently, HFs are paying cost of less customer satisfaction due to risks and hazard. It has become emergency that the HFs managers should discuss an important topic of layout, which helps omitting extra costs and financial load of facing risks and hazards for HFs, patients and society [2]. In the past, focusing of HF design layout was mostly on the integration of new technologies, and square-foot/cost, etc. which, were derived from the industrialization, optimization revolution and settings that could not consider the problem of infection transmission [5] and service quality. In this kinds of approaches the patients will be as products, for example, two patients are place too close to each other, since the nurses had to take lesser steps while attending to the patients and this would decrease the distance requirement [5]. The problem was low customer satisfaction and service quality.

Rethinking about HF design is now a so noticeable factor. It changes the settings and way of healthcare that can be reflected in a noticeable service quality difference. Connecting HF building design strategies with acceptable quality outcomes, can improve quality of care, such as, declined falls, declined healthcare acquired infections. the main subject of discussion between HF managers and customer-care team is changing from financial focus to better HF design and the important role of physical environment in improvement and progress of healthcare quality [2]. This is a good and effective viewpoint that will affect and improve the quality HF services in the future [2].

3. CONCLUSIONS

To have a HF with good quality of services, HF managers should set their decision about layout design of HF buildings on multiple elements besides cost, such as, fire safety of construction material, risk protection, safety of building, hygiene, sound isolation, environmental protection, preventing from waste energy, durability and utilization rate, etc. [6]. Evidence-based design is provided a common language of communication for clinicians, architects, and HF managers by linking the design of the physical environment with quality improvement agenda and an organization's patient safety [2]. It is so useful to conduct suitable and applicable standards, guides and any approaches to achieve safety conditions along the planning phases [7]. Evaluation of safety risk can be repeated for design of HF if the basic and primary information are accessible [7].

Hussain and Babalghith [8] stated the term 'Healing Architecture', a healing environment with the proper physical designs would decrease their hospital stay, improve the patient health, increase patient satisfaction, reduce their stress levels, decrease the risk of infections, etc. Renovation and also upgrading process should be placed compulsory as a necessity changes for existing HFs building [6]. Much consideration about design of HF building must be in the planning phase because of the most part expectation and noticeable factors that help to improve health condition of society are be in parallel tackle with new emergency infectious diseases [6].

There are a few researches, which can be mentioned, with similar aim of this study. They are concentrating the role of healing architecture, showing effects on service-quality factors with consideration of elements that are important in field of layout, such as, department configuration. A healthier community is better able to do their responsibilities and provide many services that are inaccessibility to an ill community [9].

ACKNOWLEDGEMENTS

The work is supported by the Ministry of Higher Education, under the Fundamental Research Grant Scheme (FRGS) of RDU150107.

REFERENCES

- [1] Health, D.o., Health Building Note 00-01 general design guidance for healthcare buildings. 2014, Department of health.
- [2] Mission, J.C.R., Planning, design, and construction of health care facilities. Second ed. 2009, U.S.A: Joint Commission Resources.
- [3] Centre, H.P.S., Infection prevention and control building guidelines for acute hospitals in Ireland. 2008, SARI Healthcare Infection Prevention and Control Design Working Group Ireland.
- [4] Rao, L.C.S., Designing hospital for better infection control : An experience. *Med journal armed forces India*, **60(1)**, 2004, pp.63-66.
- [5] Van Enk, R.A., Modern hospital design for infection control, in *Healthcare Design Magazine*. 2006: Michigan.
- [6] Lateef, F., Hospital design for better infection control. *Journal of emergencies, trauma, and shock*, **2(3)**, 2009, pp.175-179.
- [7] Mission, J.C.R., Planning, Design, and Construction of Health Care Facilities. Third ed. 2015, U.S.A: The American institute of architects.

- [8] Hussain, M. and A.O. Babalghith, Quality of hospital design in healthcare industry: history, benefits and future prospect. *Int J Res Appl Nat Soc Sci*, **2(5)**, 2014, pp.61-68.
- [9] Wenzel, R., et al., a guide to infection control in the hospital Fourth ed. 2008, Boston: International Society for Infectious Diseases.
- [10] Dr. J. Sivasubramanian and Dr. M. Velavan. An Empirical Study on Employee Perception a bout Organisational Climate and Its Impact o n t he Quality of Service. *International Journal of Management*, 7 (2), 2016, pp. 19 - 23 .
- [11] Alaa Tawfiq AL-Zyadat, E Government Systems and its Impact on Quality of Service at Public Hospitals in Amman (Filed Study). *International Journal of Management*, 7(6), 2016, pp. 01–05.