



# Using Way Finding As A Tool To Enhancing Quality Health Care Delivery

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## ABSTRACT

The delivery of quality healthcare is a crucial aspect of any healthcare system. With the increasing complexity of healthcare facilities and the growing importance of patient-centered care, effective wayfinding systems have emerged as essential tools to enhance the delivery of healthcare services. Wayfinding refers to the process of navigating through a physical environment, and when applied to healthcare settings, it involves guiding patients, visitors, and healthcare professionals to their desired destinations within a facility. Effective wayfinding systems play a significant role in improving the patient experience and satisfaction. Navigating through a complex healthcare facility can be challenging and stressful for patients and their families. A well-designed wayfinding system can alleviate these difficulties by providing clear and concise signage, maps, and other navigational aids. It helps patients easily find their way to different departments, clinics, or specific areas within the facility, reducing anxiety and promoting a sense of control and comfort. Moreover, efficient wayfinding systems contribute to shorter waiting times, enhanced patient flow, and improved overall operational efficiency, leading to a better patient experience. In addition to patients, visitors to healthcare facilities also benefit from effective wayfinding systems. Visitors, who may be unfamiliar with the facility layout, often face difficulties in finding their way to specific patient rooms or other areas within the hospital. Clear signage, intuitive directional cues, and user-friendly maps enable visitors to navigate independently, minimizing confusion and frustration. Enhanced wayfinding experiences for visitors also contribute to improved patient satisfaction and family involvement in the care process. Healthcare professionals, including physicians, nurses, and support staff, also experience numerous advantages with the implementation of robust wayfinding systems. Efficient wayfinding not only helps them reach their destinations promptly but also reduces the time spent in searching for specific departments, equipment, or colleagues. This streamlined navigation enables healthcare professionals to focus more on patient care, enhancing productivity and overall job satisfaction. Successful wayfinding strategies encompass several key elements. Firstly, clear and consistent signage throughout the facility is crucial. Signage should be easily readable, well-placed, and provide relevant information to guide individuals effectively. Additionally, digital wayfinding tools, such as interactive kiosks or smartphone applications, can complement traditional signage by providing real-time navigation assistance and personalized directions. These technological advancements can adapt to individual needs, offer multi-language support, and accommodate individuals with disabilities, further improving the wayfinding experience for all users. The benefits of implementing effective wayfinding systems in healthcare settings are substantial. These systems contribute to increased patient satisfaction, reduced stress and anxiety, improved operational efficiency, and enhanced overall quality of healthcare delivery. Furthermore, efficient wayfinding can have a positive impact on the reputation of healthcare facilities, attracting and retaining patients and visitors. In conclusion, wayfinding serves as a vital tool to enhance the delivery of quality healthcare. It improves the patient experience, aids visitors in navigating unfamiliar environments, and supports healthcare professionals in delivering efficient care. By implementing clear signage, utilizing digital wayfinding tools, and prioritizing user-friendly design, healthcare facilities can create a seamless and positive wayfinding experience, ultimately leading to improved healthcare outcomes and patient satisfaction.

**Keywords:** Paediatrics, centre, wayfinding, prioritizing user-friendly design, clear signage

## INTRODUCTION

The problems in way finding for patients and visitors are common in hospitals. These difficulties can result in feelings of agitation, disorientation and a loss of control (Devlin, 2003). Way finding may help reduce travel time, waiting time, service delivery time and increasing patient satisfaction, thereby improving operational efficiency in healthcare settings (Khan, 2012). Way finding constitutes one of the aspects that influence the sense of control. It is considered a 'spatial problem solving', and extensively defined as 'the process of reaching a destination, whether in a familiar or unfamiliar environment' (Arthur and Passini 1992; Pinhão, 2016). A mental image of the place layout is required for a spatial orientation. Understanding the actual location, the destination location, the route to choose, how to follow that route or when the destination is reached, is part of the problem-solving process (Huelat 2007). The elderly, visually impaired, and people of non-English speaking background are at higher risk of losing their way. Although colour coding is often used to assist in way finding, one group of authors warns that it is often misunderstood by patients and visitors to the hospital (Dalke, Little et al. 2006). Physical design is also important in assisting internal way finding by ensuring that interdependent services/departments are co-located, and by reducing movement around the site (NHS& NHSGG Report, 2006; Khan, 2012). In healthcare field, the early work of Carpman (1986) defends that way finding affects stress and can be improved through nomenclature, density (number of signs), context, placement, and visibility. A poor way finding in such typology can lead patients to be late to medical appointments or get lost easily, which represents an avoidable environmental stressor. Therefore, architects play an important role not only in the image and placement of signs, but also in the way spaces are designed. Patient's position within the building can be clarified, for example by placing windows in corridors, designing clear pathways, enabling easy-to-see elevators, creating strategic placed landmarks and designing an easily identifiable entrance (Huelat 2007).

Zwart and Voordt, (2015) explored the impact of these architectural hospital design factors on patient satisfaction in a psychiatric facilities. The findings showed that design assessment regarding way finding is a valuable input to support evidence-based design in the hospital environment. Steinke, (2015) found out that way finding is an important concept that determines the attributes of the physical setting of a healthcare layout environment. Parke, (2007) pointed out that way findings is a crucial physical design elements of an elder friendly hospital. Further studies by Samah, Ibrahim & Wahab (2013) showed that way finding is an interior physical design component of an outpatient healthcare facilities. Similarly, Alvaro, Wilkinson, Gallant, Kostovski& Gardner, (2015) included way finding as hospital design factor in an attempt to assess the impact of architectural design on psychosocial well-being among patients and staff in the context of a new complex continuing care and rehabilitation facility. Kline, Baylis, Chatur, Morrison, White, Flin, Ghali, (2007) considered way findings around the hospital as a factor that enhanced the physical facilities of the patient care environment which also improved patients' overall satisfaction.

Spatial organization in healthcare facilities encompasses the arrangement and utilization of physical space, including the layout, circulation, zoning, and integration of various functional areas within the hospital (Dandridge et al, 2001). It aims to enhance patient experience, facilitate efficient workflows, and promote collaboration among healthcare providers, ultimately contributing to improved healthcare delivery.

Anambra State, located in southeastern Nigeria, is a region that has witnessed rapid development in recent years. As healthcare needs evolve and the demand for specialized medical services increases, it becomes imperative to examine the application of effective spatial organization principles in the design of cardiac specialist hospitals. By incorporating thoughtful spatial strategies and design elements tailored to the unique requirements of paediatric care, Anambra State can strive to create healthcare environments that optimize patient outcomes, streamline workflows, and enhance the overall healing environment.

Patient-centered design is an approach that places the individual at the core of the design process, ensuring that their needs, preferences, and comfort are prioritized (Jain, Saint et al, 2014). This approach fosters an environment that empowers patients and promotes active participation in their own healthcare journey. Studies by Jain et al. (2015) and McCullough et al. (2017) emphasize the importance of patient

engagement, flexibility in room layouts, and the provision of personal control over the environment as key elements in patient-centered design. By applying these principles to the spatial organization of cardiac specialist hospitals, architects can contribute to improved patient satisfaction and a sense of empowerment.

The benefits of applying spatial organization principles to cardiac specialist hospital design are far-reaching. Efficient spatial planning can significantly improve operational workflows, reducing the time and effort required for healthcare professionals to navigate the facility and access critical resources (Lawson B et al, 2011). This, in turn, enhances the efficiency of medical procedures, allowing for faster diagnoses, interventions, and patient management.

Additionally, well-designed spatial arrangements can contribute to the creation of a patient-centered environment. Pediatric patients often undergo long and challenging treatment processes, requiring comprehensive care and emotional support. By carefully organizing spaces to promote comfort, privacy, and positive distractions, cardiac specialist hospitals can foster a healing atmosphere that aids in the recovery and well-being of patients.

Moreover, the utilization of effective spatial organization strategies can help optimize resource allocation. This includes efficient utilization of space, equipment, and staff, resulting in cost savings and increased operational effectiveness. By optimizing the allocation and proximity of spaces such as examination rooms, operating theaters, pediatrics catheterization laboratories, and patient recovery areas, healthcare providers can streamline patient care pathways and reduce unnecessary movement, ultimately leading to improved outcomes.

Devies et al, (2008) stated that spatial planning in architectural design is the creation of functional layouts or sequences of rooms or spaces as required by the brief. A good hospital design integrates functional requirements with the human needs of its varied users: patients, visitors, support staffs, volunteers, and suppliers. The design of a facility/structure with its fixed and moveable components can have a significant impact on human performance, especially on the health and safety of employees, patients, and families (AIA, 2001).

### **Aim**

The aim of this study is to design an ultra modern paediatrics centre for Nnamdi Azikiwe University, Awka that will solve the problem of wayfinding.

### **RESEARCH METHOD**

The primary method of data collection for this research project is through case studies. Case studies involve an in-depth analysis of a particular paediatrics center, including its physical characteristics, historical background, and user experiences. These case studies will be conducted through site visits to paediatrics centre and interviews with staff and visitors.

In addition to case studies, online resources will also be used to collect data. Online resources such as websites, architectural journals, and scholarly articles will be used to supplement information collected through case studies. These resources provide valuable information about the architectural design and features of retreat centers, as well as their historical background and significance.

The combination of case studies and online resources will provide a comprehensive understanding of the architectural design and features of the paediatric centre. The qualitative approach and descriptive design will allow for a detailed analysis and description of the indoor sports hall, providing insights into the unique features of these paediatric centre and the experiences of those who use them.

### **FINDINGS**

Impact on Patient Experience:

1 Improved Patient Satisfaction: Clear signage, intuitive layouts, and user-friendly wayfinding systems positively impact patients' experiences, resulting in increased satisfaction. Research shows that patients who can easily navigate healthcare facilities report higher levels of satisfaction with the quality of care received.

2 Reduced Stress and Anxiety: Effective wayfinding systems can alleviate stress and anxiety commonly experienced by patients and visitors when navigating unfamiliar healthcare environments. By providing clear directions and visual cues, patients feel more at ease, leading to a more positive emotional state during their healthcare journey.

#### **Impact on Staff Efficiency:**

1 Time Savings: Well-designed wayfinding systems reduce the time spent by healthcare staff in providing directions, allowing them to focus on their primary responsibilities. This efficiency improvement translates into increased productivity and improved patient care.

2 Enhanced Collaboration: Effective wayfinding systems facilitate better communication and collaboration among healthcare staff, especially in large and complex facilities. Easy navigation helps staff members locate one another quickly, leading to improved teamwork, faster response times, and better coordination of care.

#### **Streamlined Operations:**

1 Optimal Resource Allocation: Wayfinding systems that include real-time information about room availability, equipment locations, and staff availability allow for efficient allocation of resources. This leads to reduced wait times, improved patient flow, and better utilization of facility capacity.

2 Emergency Preparedness: During emergencies or critical situations, wayfinding systems can provide clear evacuation routes, emergency exits, and important safety information. Such systems contribute to better emergency preparedness, ensuring the safety of patients, staff, and visitors.

#### **Implications for Healthcare Organizations**

The findings discussed above have significant implications for healthcare organizations:

5.1 Investment in Wayfinding Systems: Healthcare facilities should prioritize the development and implementation of comprehensive wayfinding systems, including clear signage, intuitive layouts, and digital tools. This investment enhances patient experience, staff efficiency, and overall quality of care.

5.2 User-Centered Design: Wayfinding systems should be designed with the end-users in mind, considering their diverse needs, including patients with disabilities, elderly individuals, and non-English speakers. User-centered design ensures inclusivity and accessibility, promoting equitable healthcare experiences for all.

5.3 Regular Evaluation and Updates: Wayfinding systems should undergo periodic evaluation and updates to address changing needs, facility expansions, and advancements in technology. Regular assessments can identify areas for improvement and help healthcare organizations maintain an optimal wayfinding experience.

#### **CASE STUDIES**

Enugu, in Enugu State, has a paediatrics center situated inside the university of Nigeria teaching hospital, located along Enugu-Port Harcourt express road, Ituku/Ozalla and built in 1970's by the federal government. It was the first hospital built by the government which serves the old eastern region (plate 1).



Plate 1: showing the waiting area in the paediatrics area.

Source: Ezeuko, (Retrieved may 20<sup>th</sup>, 2023

In Anambra State, the federal paediatrics center situated inside the Nnamdi Azikiwe University Teaching Hospital, Nnewi was built in the city of awka in year 1992 and located at nnewi, along Enugu-Onitsha express road (plate 2).



Plate 2: showing the entrance leading to the paediatric ward in Nnewi teaching hospital.  
Source: Ezeuko, (Retrieved may 20<sup>th</sup>, 2023)

During the visitations and interviews conducted in the hospitals aforementioned for the sake of this paper, none of the paediatrician were met on site because they share same facility with other specializations in the unit, the medical nurse the researchers met, explained bitterly that the facilities are not purposely built, and she lamented that a lot of spaces need be incorporated for effective spatial organization and circulation. This issue has caused unnecessary traffic and confusion within the shared space.

## CONCLUSION

Design is the determination of what is to be built. In a paediatric center, the healing environment through building and landscaped design is necessary and the aim is a higher positive outcome which will be recorded if architects and contractors can team up with nurses, doctors and administrators to design a suitable and functional paediatric center.

A flexible pattern and design concept that takes after form follows function was adopted for the paediatric centre to capture all functions required to foster of family interaction and bonding and relaxation of patient and management. Thereafter, plans, elevations, section and details were produced to suite the scheme. An analysis of construction methods, materials, and building services necessary for the development of a paediatric centre is also provided

## RECOMMENDATIONS

Considering the findings of this research work, the following recommendations I make towards facilitating an effective and functional paediatric center:

- a. By proper planning of the soft landscape such that the trees and hedges streams into the indoor spaces to create an organic unit.
- b. A dispensary department should be fuse into a health design monitored by a qualified pharmacist and relieved patient of the stress of searching for drugs in unregistered quarters.
- c. Spaces in a paediatric care center should also be arranged in free space manner such that patients and consultants can interact with no physical or psychological barriers.
- d. Paediatric center should be located in a natural and serene environment with little or no environmental pollution and hazards and can be easily accessible to a hospital in case of severe situations.

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