

The Growth and Change of Post-War Hospital Architecture in Japan

戦後の日本における病院建築の成長と変化

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Background

The post-war era in Japan was a period of drastic reform, development, growth and changes. Economic growth and government reform gave birth to the highly economically efficient National Health Insurance System (NHIS) in 1961. This spurred a fast growth in hospital construction that lasted several decades. In the last 50 years or so, hospitals have been built in many shapes and sizes, although nearly none of the original wood structured early post-war buildings still stand up today. Hospitals in Japan are commonly known to have a relatively short lifespan of 30 years, favoring a scrap and build solution whenever a site becomes too small to further grow. Hospitals need to keep up with medical technology and the needs and growth of the community, as well as being able to balance an important budget in addition to meeting a large number of regulations, satisfying a number of authorities, whether commercial and/or political.

Objectives

This study aims to evaluate the state of hospital architecture in Japan in the perspective of growth and change / flexibility after the post-war. The main objectives of the study include:

- To identify the major trends and factors that have influences the growth and change of hospitals in Japan.
- To identify major problematics in a new hospital addition project.
- To evaluate the situation in Japan in comparison to hospital buildings abroad.

Research Methodology

The content of the research is divided into 4 sections.

1. Case Studies: Which include selected hospital models from abroad and a selected panel of domestic projects
2. Interviews: The interview research consisted of 3 main parts representing each a different point of view: Architect, Hospital administrator and the Public Body.
3. Study of Historic Plans: This section consisted of a comprehensive analysis of historic plans of hospitals throughout the post-war era to today.
4. Questionnaire Survey: which is a 2 facet questionnaire aimed towards hospital administrators and hospital staff that provided insight on the current attitudes in the industry towards the issues of hospital planning.

Content

The paper consists of 5 chapters.

Chapter 1: Growth and Change in Form and Function

This chapter identifies the major factors and contributors that influenced the design and planning of hospital architecture based on the historical evolution of the physical alterations of the buildings. It identifies the major trends occurred in hospital growth and change history, and also enlists the major characteristics and architectural forms prominent in each corresponding wave.

Chapter 2: Growth and Change Architecture in Japan

3 domestic projects were selected for analysis for a better understanding of the lifespan of a hospital.

1. Tokyo University Hospital, Tokyo; 2. Chiba Cancer Center, Chiba; 3. Cancer Institute Hospital, Tokyo.

Each of these case studies was studied to assess the building history and planning / design strategy at a new addition.

Chapter 3: Flexible Hospital Models from Abroad

3 projects from abroad were selected for analysis.

1. McMaster Health Sciences Center (Canada); 2. Northwick Park Hospital (UK); 3. Insel University Hospital (Switzerland)

These internationally known projects for flexibility were described and analyzed in comparison with the previous projects in Japan.

Chapter 4: Evaluation of the Current State of Hospitals

Chapter 4 describes the findings in the survey studies. It revealed attitudes pertaining to hospital planning such as planning priorities, satisfaction levels, decision making, Obstacles and Lifespans. For example, results conclude that Administrators put their priorities on Functionality (1) and Circulation (2); while, the latter shows the staff's dissatisfaction towards Storage Space, Wayfinding and Circulation. In general, there was a large gap between planning priorities and the satisfaction levels of the users.

Chapter 5: Discussion: Guidelines for Future Planning

In order to properly design for the future, the following phases of planning are discussed in this chapter. It is believed that to achieve sustainability in a hospital, the following planning stages need to be met and an open strategy need to be devised for future growth.

1. Strategic Planning: Defines the long term role of the organization
2. Master Programming / Master Planning: Establishes the plan for realization of the physical hospital plan.
3. Functional Programming: Defines the functions and operations of the hospital and the work plan.
4. Design Development / Contract Documentation: Defines the layout proposal and major department adjacencies

Conclusion

In order to provide for planned expansion it is necessary to develop a master plan that provides for both short - and long - term expansion and change within the hospital and throughout the campus. The master plan should establish major paths of circulation projected through foreseeable phases of new and renovated buildings. The design concept should contain within it an overall ordering principle for the entire campus, integrating into the design a building systems framework. Changing market demands, new technology replacing the old at an ever-increasing rate of change, advances in the science of medicine and changing patterns of disease all underline the need to design healthcare buildings for flexibility. The functional, technical and hence financial success of hospitals thus depends on the ease with which they can grow and change, and this dependence increases with time. The aesthetic implications in designing buildings that will expand and change over time also become an issue. An urban design approach is necessary; an initial building whose form is symmetrical will tend to look skewed when expansion takes place. The higher the buildings are, the greater the aesthetic, technical and functional difficulties in making a workable addition. Post-war Japan's growth and change architecture is complex and adding to an already complex building is not easy. In search of a good solution, in the ideal world, the perfect balance is found between functionality of the space and the generic parameters that afford its flexibility. Staff and patients will enjoy a pleasant and effective work / care environment. Construction money can be optimized. In the real world, this point of balance may seem elusive at times, but team work, attention to detail, and open communications throughout the planning and design process help us close in on our target.