

# The Change and New Paradigm of Hospital Architecture in Korea

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## 1. Introduction

Korean hospital architecture was experienced a big change in the early 1990s. In this time, per capita income of Korea had over 10 thousand dollars and conducted National Healthcare Insurance for all citizens. People were more interested in diagnosis and treatment of disease and the number of hospital users had increased dramatically.

Since the early 1990s, hospitals have tried hard to find the way how to express the concept of 'Patient-Centered Hospital', 'Practice-Based Hospital', and 'Healing Environment' on hospital buildings to attract more patients.

growing interest in the prevention of disease.

The ministry of Health and Welfare Department expected that the number of the outpatient will be reduced from 2015. The Korea National Statistics said that the population would be on the decrease from 2018. Therefore, the number of hospital users will continue to decrease.

**Referenced project** conducted by YANG Nae won & CHO Jun young

Year	Project	Phase	Design Firm
2000	Kangbuk Samsung Hospital	Remodeling	Master Plan & Design • YANG Nae won • SD partners
2003	Boramae Medical Center	Expansion Remodeling	Master Plan & Design • YANG Nae won • MooYoung Architects
2006	Samsung Medical Center	Remodeling	Master Plan • YANG Nae won
2007	Bucheon Medical Center for Elderly	New construction	Design • YANG Nae won • New Architects
2009	Chungbuk National University Hospital	Expansion	Design • YANG Nae won • JH Architects
2009	Seoul National University Bundang Hospital	Expansion	Master Plan & Design • YANG Nae won • MooYoung Architects
2009	Seoul Veterans Hospital	Remodeling	Master Plan • YANG Nae won • CHO Jun young
2011	Rehabilitation Hospital for Industrial Accident	Remodeling	Master Plan • YANG Nae won • CHO Jun young



### Introduction

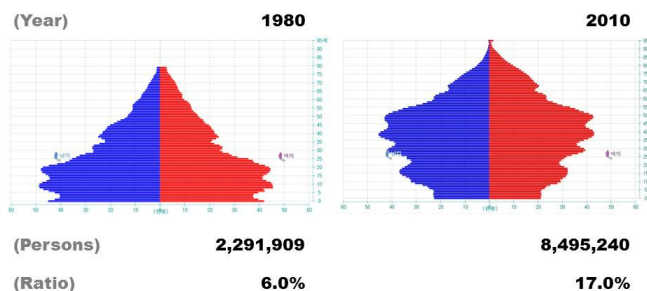
#### Change of healthcare environment in Korea



#### What is the key role of hospital architecture in the future?

However, there have been many changes in healthcare environments recently. Since 2000s, the rise in elderly people and national income leads to a

#### Increasing elderly population (over 60years old)

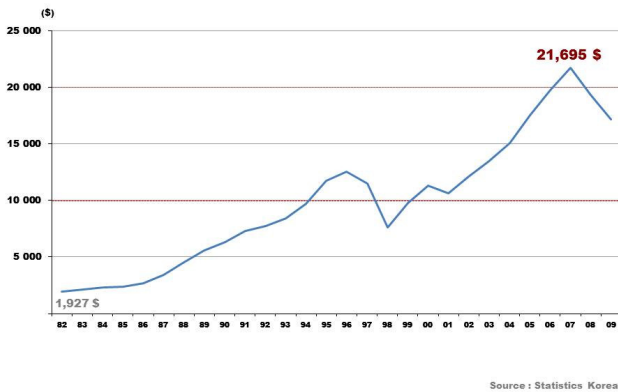


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Source : Statistics Korea

The rate of the people over sixty in Korea 17% in 2010. It has increased about three times compared with in 1980. The number of elderly people is set to rise more sharply. As referred to earlier, per capita income of Korea had over 20 thousand dollars in the middle of 2000s.

**Gross National Income (GNI) per Capita**



**Samsung Medical Center - Health Promotion Center**



The rise in elderly people and national income has have an enormous effect on hospital architecture. The hospital users have been changed with the growing interest in good health, emphasizing treatment and prevention of disease. The number of the general public for the prevention of disease is increasing. We name them 'Gray Patient'

Increased Gray Patient caused hospitals to strengthen functions relating to the prevention of the

disease and expand investment to the health promotion center.

For instance, Samsung medical center expanded its Health promotion center to about 7,000m<sup>2</sup> in 2008. It's 2.3 times compared with about 3,000m<sup>2</sup> in 1994. In addition, the facilities based on the 'life center' is appeared. They are not simple examination center, "C" life center, established recently, set its own goals as follows:

- prevention, not just treatment
- integration of western, oriental, and alternative medicine
- early prevention of disease and stem cell therapy
- combination of medicine with rest
- customized health program depending on individual physical condition and constitution

Until now, the major talking point in hospital architecture has been 'patient-centered hospital'. Hospitals have set a goal of making a pleasant environment to patients to attract more clients.



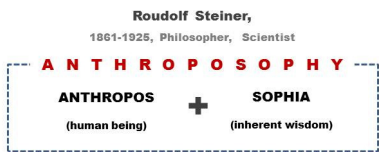
**Hospital for the Patient**  
Facilities for sick people  
**Treatment**

**Hospital for the Gray Patient**  
Facilities for everyone  
**Prevention, Wellness**



Now, Korean hospitals think over how to introduce the concept of daily life space accessible to everyone, which is beyond the healing space which helps patients' recovery in their buildings.

**Anthroposophical Medicine**

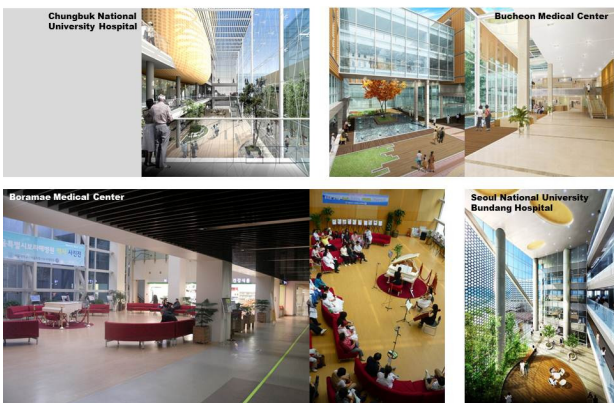


It is not surprising that in anthroposophical medicine, the built, cultural and social environments in which patients are treated play as important a role as the therapies and remedies prescribed for the patients. Given this biographical connection, the illness or disability must be seen in a larger social context, including one's family and friends, one's community and society at large. **Social interaction, social support and a sense of community play a most significant role in anthroposophical therapy.**

Susanne Siepl-Coates, 'The architecture of hospitals,

**The importance of community (群集) space as a social healing environment**

**City - like hospital, City within the hospital**



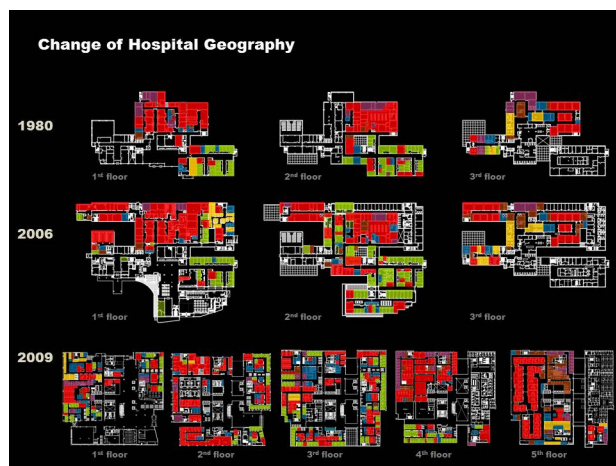
The community structure showed in the Korean alley may be different from other countries. But, obviously, there is always the behavior in groups and the place for it cutting across lines of time, area, race. It has already been underlined the importance of space in groups as a social healing environment in the Anthroposophy since the late 19C. The most representative community space is square, park, and street in our modern society. It's important that buildings should fit in with these spaces. However, the existing function-centered architecture ignored the community space.

As the notion of accessible and social-healing space is introduced in the hospital building, it is emphasized to build a community space. It reflects the notion that hospitals should be the space for medical care, culture, and daily life, in addition, should be the facility open to local community. With

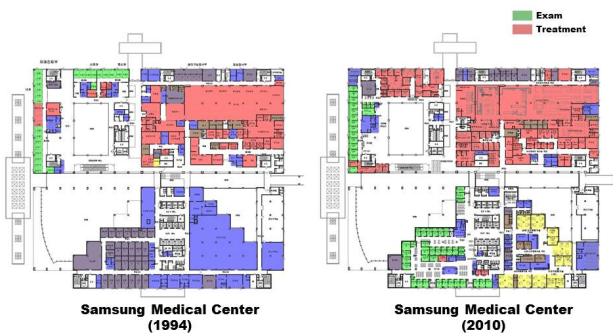
the progress of discussion on the community space and restoration of relations with a city, the concept of 'City - like Hospital' and 'City within the hospital' is reflected to the hospital architectural plans.

**3. Outpatient Specialization Center**

The next picture shows that the geography of hospital architecture is changing. The reason for these changes is that the approach to the treatment of disease is changed and the concept of the Outpatient specialization center is introduced with advances in medical technology.



**Outpatient Specialization Center**



Design by YANG Nae won

One stop medical service became important for the patients' convenience and the outpatient department extend its area for joint examination, inflow of treatment and diagnosis function, additional supplies and managing rooms, education and research

function.

We planned the Samsung Medical Center's internal rearrangement project reflecting these tendencies in 2006.

#### 4. Research Oriented Hospital

'Patient-centered' hospital management has a limit with the decrease in population and oversupplies in medical care. As major hospitals play a key role in realizing the need of the model for enhancing treatment quality and making a profit by building R&D into the core competence, research-centered hospitals are suggested as a new alternative.

Also, future healthcare environment is expected to change to the integrated customized system medicine including basic and clinical medicine in the individual genome era.

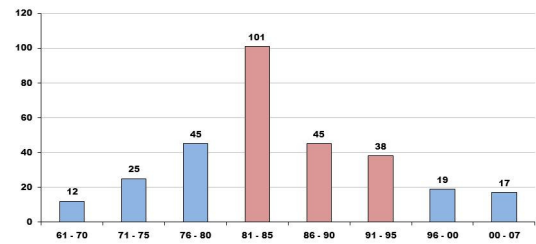
Thus, the research facilities like Clinical Trial Center, Cytotherapy Center, and Cancer Research Center are being expanded and the investment in them are increased. Korean government is also ready to provide support research hospitals as the growth engines in the future.

#### 5. Remodeling

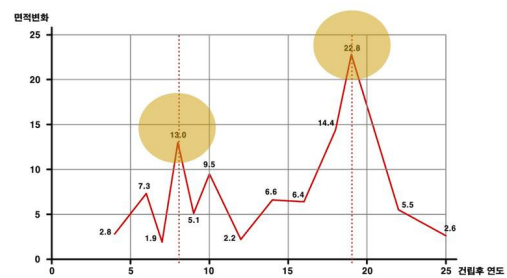
First, I will show you the general information about growth and change in Korean hospital architecture. 60% of general hospitals in Korea were established between 1980 to 1995. Korean hospitals extend the building in 8 to 10 years after the first construction, and again extend largely the building in 18 to 20 years

We can see these cycles, case of Seoul St. Mary's hospital. This hospital opened at 1980, first large expansion at 1988, 8 years after opened. Then second large expansion at 1998, 18years after opened. Also, internal changes break out frequently. In this case, the ratio of internal change is about 60%.

Opened year of general hospitals in Korea

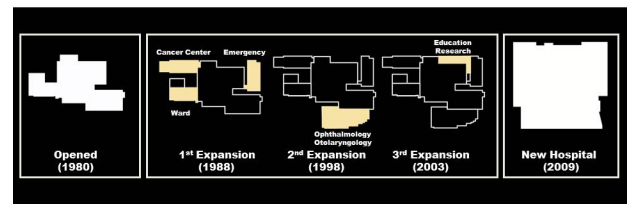


Expansion cycle of general hospitals in Korea



- Korean hospitals extend the building in 4 years after the first construction
- largely extend the building in 8 - 10 years and again 18 - 20 years

Growth and Change (Case by Seoul St. Mary's Hospital)



The net area per bed of established hospitals has increased by about 70m<sup>2</sup>/bed compared with about 40m<sup>2</sup>/bed in the early 1980s. However hospitals established in 1980s, even though much growth and change, there area is very small compared to recent hospitals.

We, also see that the requirements of height of story are higher and the space rate is higher for the

facility intensive area in hospitals

**Internal Changes**

