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**Architecture and Cancer: Enhancing the
Appropriate Environment of a Cancer
Rehabilitation Centre in Suzhou**

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Architecture and Cancer: Enhancing the Appropriate Environment of a Cancer Rehabilitation Centre in Suzhou

Ke Liu

Abstract

Cancer is an increasingly serious problem in modern society, and the number of cancer patients is growing rapidly. The quality of the rehabilitation environments influences the emotional well-being of people affected with cancer. Enhancing the environment could thus be regarded as the merit of architecture for health. There are numbers of existing designs for cancer centres in the UK such as Maggie's Centres. Unfortunately, there is still a huge lack of cancer rehabilitation buildings in China compared with the serious cancer burden. The problem I am trying to solve in this paper is to enhance the appropriate environment of cancer rehabilitation to help people affected with cancer. My methodological approach to understanding the problem is to collect data and analyse the situation through interviews between the local cancer survivors and the public. This will allow us to discover the local patients' requirements and the normal people's suggestions for solving the problem of cancer care. The results obtained in this research include a cancer rehabilitation centre design in the site of Suzhou. The design of the rehabilitation centre environment is based on the local context and the wish of the people affected with cancer in Suzhou. The traditional dwellings of Suzhou are a kind of countryside house often found in Asia. The number of people in Asia affected by cancer increases rapidly. The article tries to show a design capable of creating an appropriate rehabilitation environment based on a traditional Asian context.

Keywords: Architectural Context, Building Environment, Cancer Rehabilitation, Suzhou.

Introduction

This paper mainly discusses a design approach for enhancing the environment of cancer rehabilitation centres in Suzhou. Before that, there are several essential contexts introduced.

The Cancer Situation

Cancer, except a disease is a social problem. In 2012 worldwide, there were 14.1 million new cancer cases, 8.2 million cancer deaths and 32.6 million people living with cancer (within 5 years of diagnosis). Fifty-seven percent (8 million) of new cancer cases, 65% (5.3 million) of the cancer deaths and 48% (15.6 million) of the 5-year prevalent cancer cases occurred in less developed regions¹. The newest report from the Ministry of Health of China showed that the main disease cause of death in China is cancer. The annual morbidity of cancer is 1.6 - 2 million; the annual mortality is 1.4 million,² and on average, 24% of these worldwide annual deaths occur in China. In other words, there are 6 patients from China among every 25 cancer patients in the world³ (Figure 1). Suzhou is the most economically developed city in Jiangsu Province and yet there are still high death rates due to cancer. For instance, the number of deaths in 2013 was 44,746; there are 13,402 deaths of cancer among them, accounting for 30%⁴. Lung cancer has the highest mortality rate, which is 24.89%, followed by gastric cancer and liver cancer, which are 17.30% and 12.17% respectively⁵.

¹Globocan. (2014). *Cancer Fact Sheets* [Online] Available from: http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx. [Accessed: 23/07/2016].

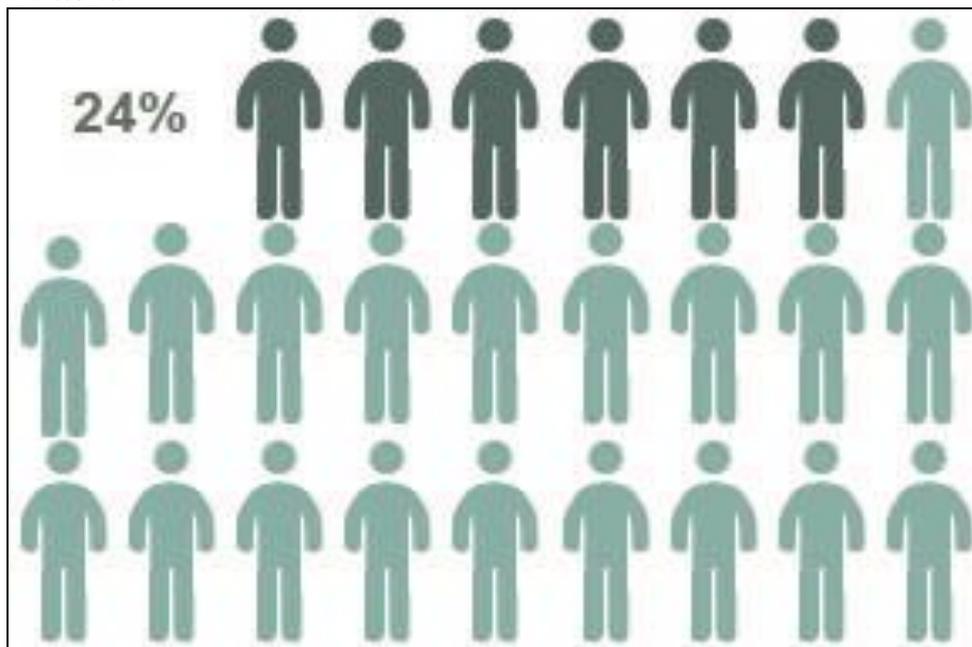
²Chunlan, Z., Xiaoyan, H. & Chunhua, Y., (2006). The present situation and prospects of cancer patients' psychological care in China. *Qiqihar: Journal of Qiqihar Medical College*.

³Jie Li. (2014). "Poor cancer" is to catch up with the "Rich cancer" [Online] August 12th 2014. Available from: <https://bit.ly/2J4QYgg>. [Accessed: 3/9/2016].

⁴City Business. (2014). The report of the cause of death and chronic disease testing of Suzhou 2013 [Online] May 5th 2014. Available from: <http://www.szdushi.com.cn/news/201405/201469516.shtml> [Accessed 26/07/2016].

⁵Jiangsu of China. (2014). 82 years or more of average life expectancy in Suzhou, lung cancer accounted for a quarter of the total cancer. [Online] May 5th 2014. Available from: <http://jsnews.jschina.com.cn/system/2014/05/05/020901302.shtml> [Accessed: 3/9/2016].

Figure 1. *There are 6 Patients from China among Every 25 Cancer Patients in the World*



The Importance of Cancer Rehabilitation Centres

Most cancer patients have to face high levels of fear and mental stress. They mainly experience anxiety, haze, fear, depression, anger and despair⁶. The cure of the cancer is a long term not only treatment but also rehabilitation. Some cancer patients I interviewed in Suzhou have to bear these changes to their lives by themselves. There is an expensive cost of medical treatment for patients with terminal cancer, and the quality of life is poor. The development of hospice care is a kind of urgent need after treatment for numbers of cancer patients. The cancer has the close relationship with people's way of life such as diet, exercise, emotions and so on. The cancer, patients have complex psychological motivation. They mainly represent anxiety, haze, fear, depressed, anger and despair⁷. It is necessary to know about the mental problem of people affected with cancer before helping them in practical and special methods.

Rehabilitation Centre is a place in which people could get support when they feel high and dry. There is a huge lack of cancer centres in China with the serious cancer burden. It is important that the cancer centre helps patients find the agreement and domesticity, optimistic attitude. It is a place to release their stress.

⁶Baohui, W. (2003). Psychological care of the cancer patients. Zhenzhou: Journal of Medical Forum.

⁷Baohui, W. (2003). Psychological care of the cancer patients. Zhenzhou: Journal of Medical Forum.

The Context of Suzhou

As a kind of Asia tradition symbol, Suzhou traditional style is: the narrow roadways go through the dwellings at random arrangement with the brook passing under bridges. The rainy damp climate decides the roof of local dwelling is sloping roof. Buildings retain the quietly elegant colour in "black, white, and grey" (Figure 2). The city moat around the old town is used into a well-known water landscape with the green. About the building context, it is also famous of Suzhou Garden. Classical Chinese garden design, which seeks to recreate natural landscapes in miniature, is nowhere better illustrated than in the nine gardens in the historic city of Suzhou. They are generally acknowledged to be masterpieces of the genre. Dating from the 11th-19th century, the gardens reflect the profound metaphysical importance of natural beauty in Chinese culture in their meticulous design.

Figure 2. *The Context of Suzhou*



Research Questions

How to enhance the healing environment of the Cancer centre with the particularly context? Finally, what could be the suitable prototype to enhance the kind environment to help people affected with cancer in Suzhou?

Summary Literature Review

The research on enhancing the environment of Cancer rehabilitation centre is ever discussed. All the researches read make the object of the study specifically and vividly. This review attempts to show:

- The appropriate environment of healing buildings.
- Perceiving Cancer Rehabilitation Centre in Design.
- Approaches of enhancing environment to help the people affected with cancer.

The Concepts of the Appropriate Environment of Healing Building

The original concept of the healing environment was developed by Florence Nightingale⁸, in her note book called "Notes on Nursing", she mainly concerned in terms of ventilation and warming. Louis Pasteur and others lead to the Germ Theory, the role of the environment was dominated by infection control and technological advances⁹. Nowadays, the concepts of the healing environment are based on the research of philosophy. The common thread linking these bodies of research is the physiological effects of stress on the individual and the ability to heal. Psychologically supportive environments enable patients and families to cope with and transcend illness. Alyn Griffiths (2014)¹⁰ thought that Happiness and good health go hand in hand. When we are ill, upset or stressed, our heightened sense of vulnerability leaves us craving a comfortable, familiar and safe environment. The design requires an approach to minimise the sense of anxiety that they can invoke and instead offer a welcoming and hassle-free place for people to deal with their problems¹¹. There is still considerable confusion about the constitution of the healing environment, the definition of the concepts of the healing environment changed by the significant emotional events in healing buildings. Malkin (2003)¹² gives criteria of the environment having the potential to be therapeutic:

- Eliminates environmental stressors such as noise, glare, lack of privacy and poor air quality;
- Connects patients to nature with views to the outdoors, interior gardens, aquariums, water elements, etc.;
- Offers options and choices to enhance feelings of being in control - these may include privacy versus socialization, lighting levels, type of music, seating options, quiet versus 'active' waiting areas;
- Provides opportunities for social support – seating arrangements that provide privacy for family groupings, accommodation for family members or friends in treatment setting; sleep-over accommodation in patient rooms;

⁸Nightingale, Florence (1859). Notes on Nursing. [Online] May 26th 2004 Available from: <http://www.gutenberg.org/cache/epub/12439/pg12439.html>. [Accessed 20/08/2016].

⁹Wikipedia-Healing Environment. (2014). [Online] Available from: http://en.wikipedia.org/wiki/Healing_environments#cite_note-3. [Accessed 20/08/2016].

¹⁰Alyn Griffiths (2014). Support Structures: architecture's role in the healing process. [Online] Available from: <http://www.architonic.com/ntsht/support-structures-architecture-s-role-in-the-healing-process/7000572>. [Accessed 20/08/2016].

¹¹Grunden, N. & Hagood, C. (2012). *Lean-Led Hospital Design: Creating the Efficient Hospital of the Future*. New York: Productivity Press.

¹²Malkin, J. (2003). *The business case for creating a healing environment. Centre for Health Design Business Briefing: Hospital Engineering & Facilities Management*. [Online] 2003. Available from: <https://bit.ly/2HdOr2G>. [Accessed 20/08/2016].

- Provides positive distractions such as interactive art, fireplaces, aquariums, Internet connection, music, access to special video programs with soothing images of nature accompanied by music developed specifically for the health care setting.
- Engenders feelings of peace, hope, reflection and spiritual connection and provides opportunities for relaxation, education, humour and whimsy.

Approaches of Enhancing Environment to Help the People Affected with Cancer

There is a trend suggesting that patients treated in a private medical setting may have better QOL¹³ for the Cancer Centre, it is different from the Cancer Hospital; there is no clinical treatment in Rehabilitation Centre. Instead, the purpose of the cancer centre is for rehabilitation and information support. Cancer Centre helps patients obtain the best physical, social, psychological, and work-related functioning during and after cancer treatment. Rehabilitation can be valuable to anyone with cancer and those recovering from cancer treatment¹⁴.

Maggie Keswick and Charles Jencks noticed the relationship between architecture and health. They agreed that uplifting buildings benefit both body and soul. They came up with a blueprint about Maggie's Centre in Britain. The ambiance of Maggie's, the calm dignity, the sympathetic attitude of the carers in this environment, all made the difference in their fight with cancer. Their gratitude was palpable. Maggie's gave them a place to confront their myriad problems one at a time, and share such experience with others so afflicted. The special kind of architecture was humorous and thoughtful, provoking but informal, contemplative and risk-taking. It allowed them a self-transformation over time from someone in a state of crying shock to a clear-eyed acceptance of their plight. The domesticity is the essential domain enhancing the rehabilitation environment. Instead of the hospital condition, the ambiance of Maggie's is informal, like a home, a Maggie's Centre is meant to be welcoming, domestic, warm, skittish, personal, small scaled and centred around the kitchen or place to make coffee and tea¹⁵ (Figure 3).

¹³Schag, C. A. L. et al (1994). *Quality of life in adult survivors of lung, colon and prostate cancer* [Online] April 1994 Available from: <https://bit.ly/2vuOoOA>. [Accessed: 15/08/2016].

¹⁴Cancer.Net Editorial Board. (2012). *Rehabilitation* [Online] January 2012. Available from: <http://www.cancer.net/survivorship/follow-care-after-cancer-treatment/rehabilitation> [Accessed 20/08/2016].

¹⁵Jencks, C. & Heathcote, E. (2010). *The Architecture of Hope*. London: Frances Lincoln Limited.

Figure 3. *The Ambience of Maggie's Centres*

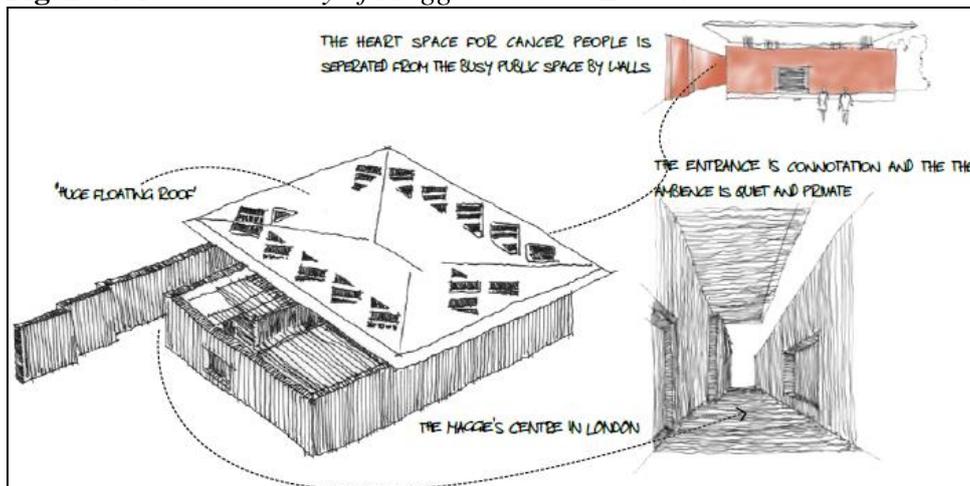


Source: maggiescentres.org/.

Richard Rogers, the designer of Maggie's Centre London, thinks the Cancer Centre should be conceived to contrast with the main hospital building. It is a 'non-institutional' building, an 'open house' of 370 square metres¹⁶. The centre should be more thought-provoking and more uplifting.

The Maggie's Centre London is next to a hospital and crammed into a busy urban site, this wall building turns its back on the cars shut out the noise of the street. The building is made up of four components: a wall that wraps around four sides, providing protection from its exposed location; in the centre; the main approach is the use of the wall to insulate the noise and the big roof to cover the scattered space around the centre kitchen space (Figure 4).

Figure 4. *The Case Study of Maggie's Centre London*



Frank Gehry designed the Maggie's Dundee and Hong Kong. He thought

¹⁶Rogers Stirk Harbour + Partners (2010) *Maggie's Centre* [Online] Available from: http://www.rsh-p.com/rshp_home. [Accessed 04/08/2016].

the building should be 'no institutional' and a kind of intimate house: a Martello tower volume made intimate in scale through a full height opening which relates it to the human form and by what the architect refers to as the 'Blinking Eye'¹⁷. All the concepts are based on the key word - intimate, the scale of the centre is small like a dwelling and even the landmark tower is inspired by the traditional dwelling called 'Broch' (Figure 5).

The Maggie's Centre in Hong Kong includes the elements of the Chinese Garden of Suzhou. The Centre's design is a series of pavilions arranged to encourage movement between the interior and the landscape. Rooms open out to the surrounding gardens or have private terraces overlooking the pond. There is a public living and dining area that serves as the focal point of the building, with views of both the ponds and gardens. The Centre could be thought of as a Chinese garden inspired by, though not beholden to, the Suzhou tradition¹⁸.

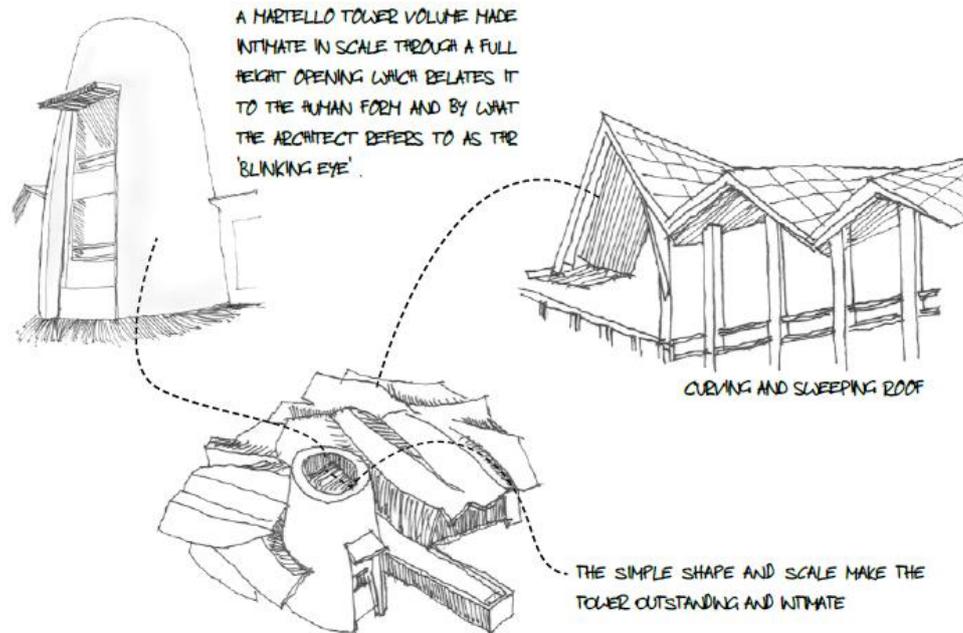
In order to make the human - scale space, the Health Care Center for Cancer Patients is shaped like a cluster of houses. Instead of creating one large building, the building generated a series of smaller interconnected rooms.

Figure 5. *The Case Study of Maggie's Centre in Dundee*



¹⁷Jencks, C. & Heathcote, E. (2010). *The Architecture of Hope*. London: Frances Lincoln Limited.

¹⁸Dezeen. (2013). *Frank Gehry-designed Maggie's Centre opens in Hong Kong* [Online] March 2013 Available from: <http://www.dezeen.com/2013/03/08/frank-gehry-maggies-centrehong-kong-opens/>. [Accessed 20/08/2016].



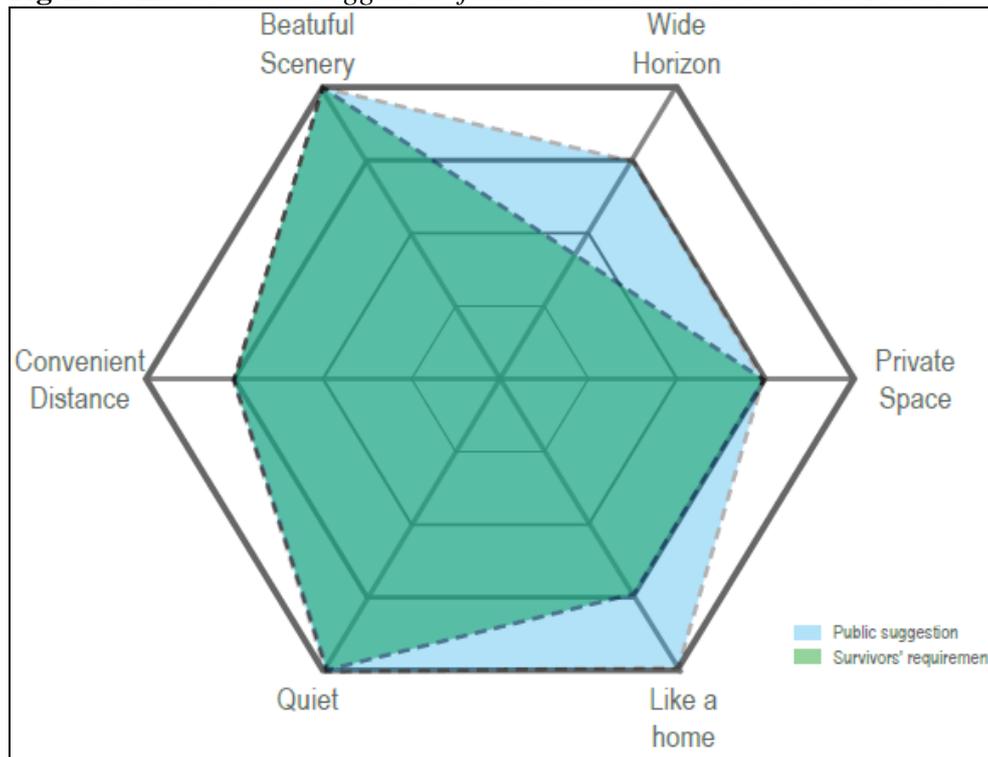
Methodology

Interviews

I made an interview with some of the members in Suzhou Cancer Rehabilitation Association. They are all cancer patients who have to bear the changes of their lives for themselves. And they introduced me the association background and existing cancer situation. With the questionnaire finished, I got know of their expectation and requirement. I also communicate the professor Zhou who is the authority of research of healing buildings to comprehend the attention of healing environment. At last, I interviewed some fellows and the public to get know about their attitude to the cancer and cancer rehabilitation. These three interviews are essential to make clear about the whole design target and the subject of the study.

The association plays the role of the emotional social stability. There are already four main activities held in the association: travel, charity performance, learning and communication. But the existing situation is not satisfied with members. From two interviews, there are six aspects that both public and patients required. To enhancing the environment, fine scenery and quiet are necessary, wide horizon, private space, convenient distance and domestic are also needed (Figure 6).

Figure 6. *Environment Suggestion from Cancer Survivors and the Public*



Comparison

The cooperation between the UK and China is from two aspects: Longitudinal comparison and Horizontal comparison. Longitudinal comparison is used to compare the cancer data increasing in two years for each Country. Horizontal comparison is also used to compare with the situation in different countries at the same time. The focus is the cancer situation between the UK and China.

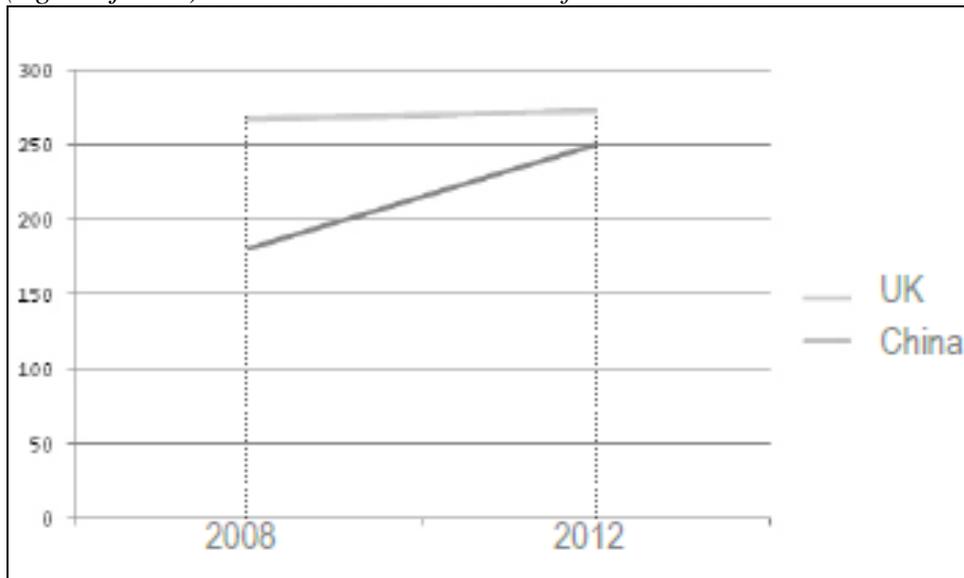
Though there are more cancer cases annually per 100,000 people in the UK, the growing trend shows that the cancer cases in China is increasing rapidly (Figure 7). There will be a huge problem with the development of people affected by cancer. The population ages 65 and above is 117.8 million in China in 2012¹⁹, at the same time, the data in the UK is just 10.77 million²⁰. In terms of the health expenditure per capita (\$) ²¹, though the cost in the UK was declared from 3801 to 3609, it was still much more than that in China, the Chinese health expenditure per capita was 157 and 278, from 2008 to 2012.

¹⁹The World Bank. (2014). *Population Estimates and Projections* [Online] Available from: <http://datatopics.worldbank.org/hnp/popestimates>. [Accessed 20/08/2016].

²⁰The World Bank. (2014). *Health expenditure per capita (current US\$)* [Online] Available from: <http://data.worldbank.org/indicator/SH.XPD.PCAP>. [Accessed 20/08/2016].

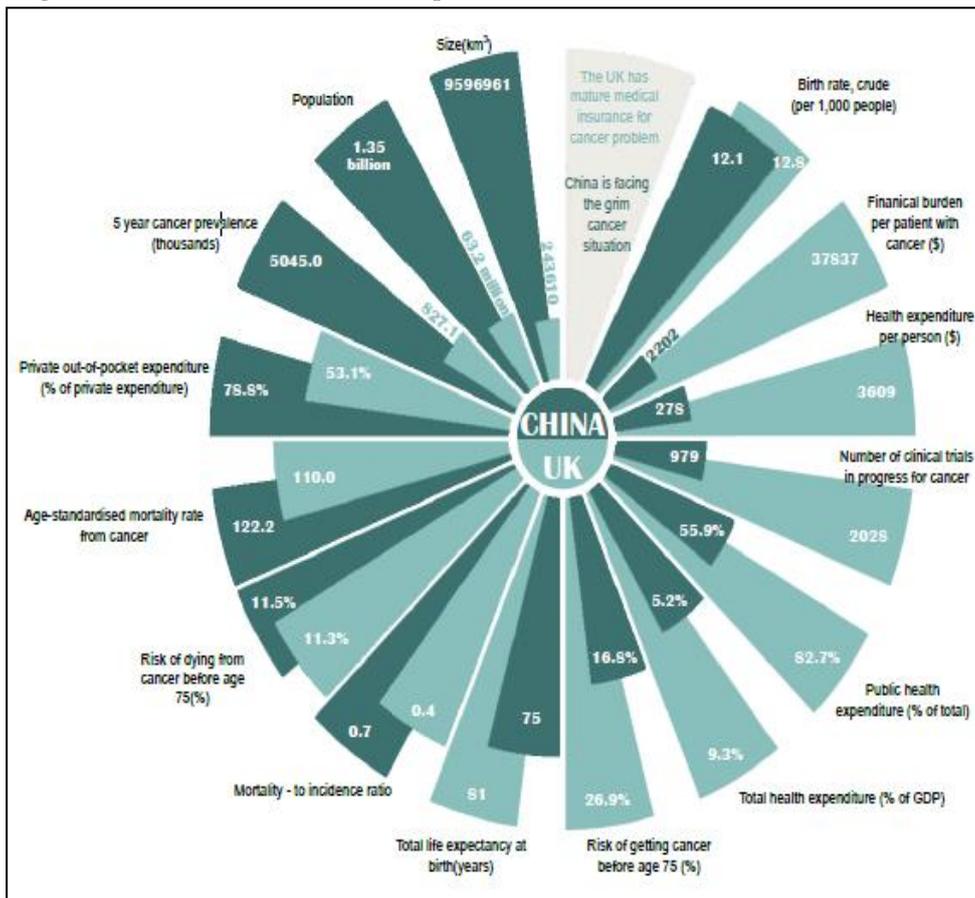
²¹The World Bank. (2014). *Health expenditure per capita (current US\$)* [Online] Available from: <http://data.worldbank.org/indicator/SH.XPD.PCAP>. [Accessed 20/08/2016].

Figure 7. Comparisons of New Cancer Cases Annually per 100,000 People (Age-Adjusted) between the UK and China from 2008 to 2012



Source: Ke Liu; data from: WHO (2014) Cancer.²²

Figure 8. The Related Data Comparisons between UK and China in 2009



In the 2009 data, for instance, we compare the comprehensive elements

²²World Health Organization. (2014). *World Cancer Report 2014*. IARC Nonserial Publication.

influencing cancer problem between these two countries (birth rate, financial burden per patient with cancer and so on). From the figure, it directly shows that the UK has mature medical insurance for cancer problem and medical expenditure accounted for large proportion in total expenditure. While China faced, large population base the ageing increased rapidly, with the cancer population increased, but health expenditure per person cost limited. There is a huge burden of private expenditure for cancer. There should be more attention to cancer problem in China (Figure 8).

About the cancer rehabilitation, there are a lot of mature facilities to help the people, such as Maggie's, Macmillan and Cancer research UK. China has just started; there are less official facilities for cancer rehabilitation. Suzhou has one charity organization but a lack of professional support and the number of place for people affected by cancer is limited.

The approach of comparison is also used among the precedents study. There are several elements of environment considered: Water landscape, highlight space (Heart Space), Close to hospitals, Around the Green, Wide Horizon, Small scale (intimate volume), Special roof, Noise disturbed and Private environment. There is a result of the summary of the Precedents Feature:

Highlight space: Most of Maggie's centres have a kitchen space as the main activity area.

Close to the hospital: All the Cancer Centres by the precedents have the same standard, the location of the Centres is all near the specific hospitals. Though the Cancer Centre is independent existence, it can have the close relationship with the hospital.

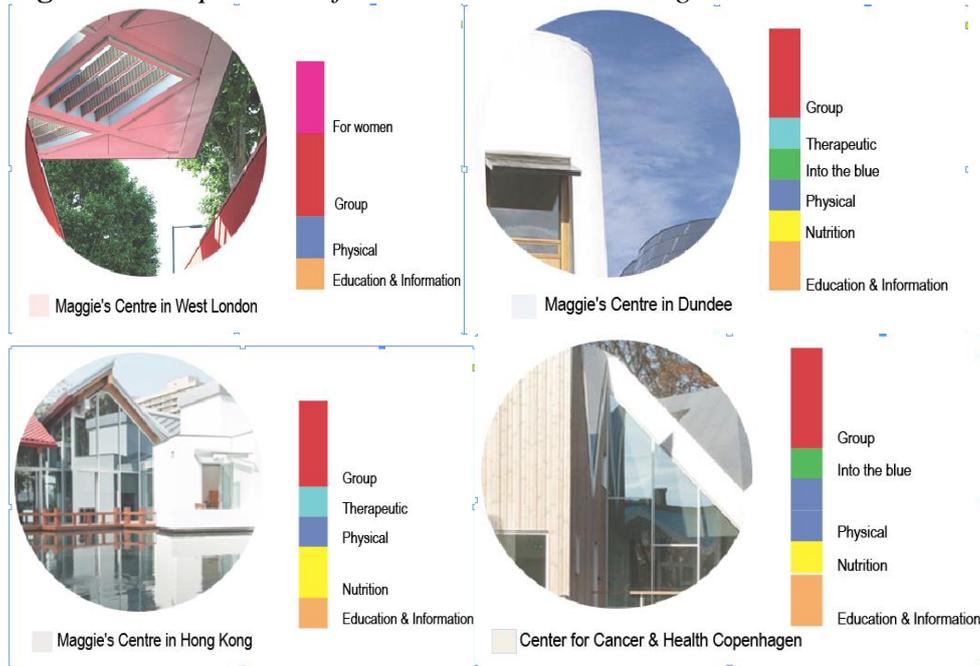
Intimate Volume: All the Maggie's Centres have the small area like the dwelling. The volume of the house is intimate to the users and can feel more domesticity. The area is around 200-500. Even the bigger one, which is Copenhagen Cancer Centre, consists of small units.

Private Environment: It is important to build a private environment in for people use. The people affected by cancer need private space to release their emotion.

Pleasant Landscape: As a Rehabilitation Centre, it is essential to cultivate an environment of good scenery. The users in the building can relax themselves not just in the concrete machine.

And there are all kinds of activities held in different spaces in Cancer Centres. During the comparisons, I analysed the programs in each Cancer Centres. There are these main categories: Individual, Groups, specifically for women, physical domain, Information & Education Domain, therapeutic, nutrition and into the blue (Figure 9).

Figure 9. Comparisons of Activities Function among Four Cancer Centres



Results

To sum up, the cancer problem in China is serious and could not be ignored by the public; the population of the people affected by cancer in China is increasing rapidly. But there is still a lack of Cancer Centres to help people affected by cancer. The appropriate environment of cancer rehabilitation should include four main elements (based on the interviews and the precedents, and the theories study): **Convenient distance, Private and peaceful environment, Perfect nature environment and Domesticity**. The first strategy is about choosing site, then the familiar and intimate ambience, further, private and peaceful environment should be considered.

So, the new Cancer Centre should be regard as a family community. It is based on the familiar dwelling context, different function in different unit. There is an intention of alley as the space connecting each unit. The building also could arouse the public attention on the positive attitude to the people affected by the cancer (Figure 10).

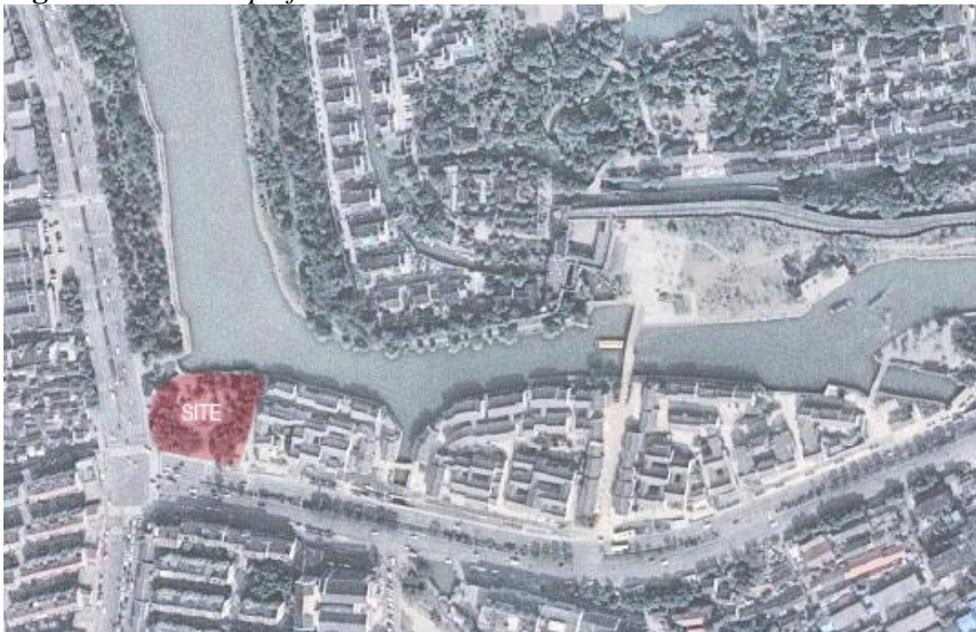
Function should fulfill all need as possible: cancer education, physical room, health buffet café, especially private rooms for individual advice. The key of the design focuses on the intimate and the urban context. So, the new building should be based on Suzhou dwelling tradition, but not the same. The building is respectful of Suzhou motifs. The use area is around 1000 m², the way of units' combination divided the huge scale into human-scale.

Figure 10. *Manifesto of Cancer Centre in Suzhou*



The site is close to the city centre in Gusu district, around the main landscape of city moat. The site is closed to the cross of two main street, there is a good traffic but with the problem about the traffic noise (Figure 11).

Figure 11. *The Map of the Site*



Source: Google Map.

Familiar and intimate strategy should be based on the local habit and context. According to the precedents study, the environment of Cancer Centre is more like the atmosphere in a home. The former context of the site was a part of the neighbourhood unit; it was full of alley space. Even now the new business was already built. The concept of alley space was also used (Figure 12). The traditional dwellings are built together with water landscape; the shape is light and concise. Obviously, alley is a very common space not just for transportation in Suzhou. So, based on the environment of domesticity, the

design cultivates the ambience of dwellings with alley space. The depth-width ratio of the alley provides the environment of walk or stay. The mood of alley space could help people affected with cancer feel relax and intimacy (Figure 13).

Figure 12. *The Alley Context of the Site*



Figure 13. *The Manifesto of Mood of Alley Space*



Discussion

In discussion, the current results and findings are compared with those of other researchers and indicated how this work either supports or does not support that of other researchers.

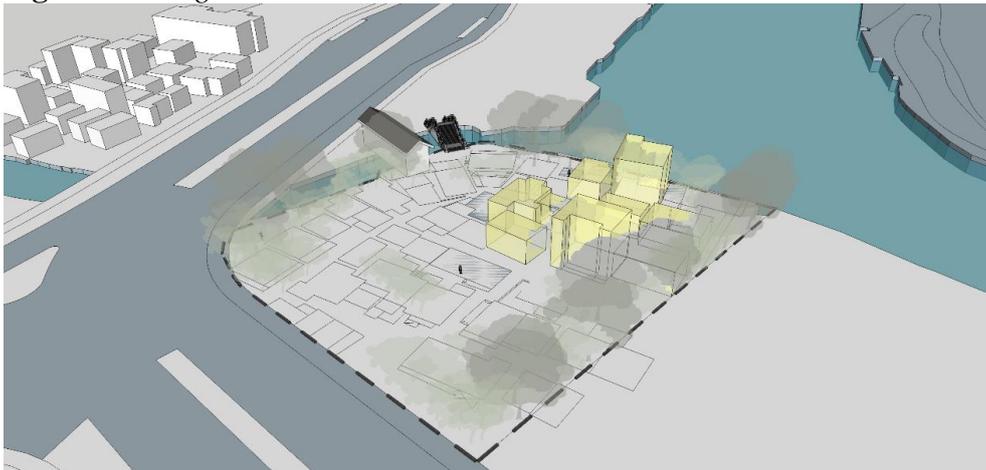
Near the Hospitals

There is an obvious similarity between precedents: all the cancer centres are located next to the related hospitals. It is easy for people to accept rehabilitation support and cancer curing advice out of hospitals. In terms of the design site, the CDC (Centre for Disease Control) is on the opposite of the street. And the distances from the site to three main cancer hospitals in city centre are within 20 minus driving.

Neighbourhood Context

The new centre is based on the former context, which is the traditional alley neighbourhood. In respect of the former context, the ambience of the cancer centre should be homey and acquainted (Figure 14).

Figure 14. *Neighborhood Context*



Enclosure for the Noise

It has the similar noise problem with Maggie's Centre London. The centre is located near a busy cross road; there is a noisy traffic threat. There is a specific part in most Asian dwelling, which is spirit screen. There are three high walls like spirit screens to provide isolation from the noise. And there is a collection of multi-stemmed trees surrounding the building. The plants not only provide the beautiful scenery but also the isolators from noise. I placed the building to the corner of the site; the corner is surrounded by the trees so that my strategy is to use the existing trees to isolate the noise from the cross road (Figure 15).

Brief

Figure 15. *Enclosure for the Noise*



According to the brief of precedents, there is a kitchen space for a large table to be used for demonstrations/ seminars/ discussion groups²³. The unit buildings are separated for different functions: Unit 1: reception room includes salon space and consulting rooms and a homey library floats on the water. Unit 2 is sort of party place: first floor is kitchen room with buffet café and the second one is Mah-jong room. Unit 3 includes a meditation room, an activity room and private space for individual advice with green (Figure 16). The design has an activity room especially for physical activities and workshop. The activity unit should be an open build which can hold some healthy and meaningful activities such as: Tai chi, Yoga, Music therapy and Cancer Education Classes. The meditation room is a specific place with green for calm without disturb, the idea is come from Maggie's Centre in Dundee, who has a meditation tower like a "broch" as the top of the whole building (Figure 17).

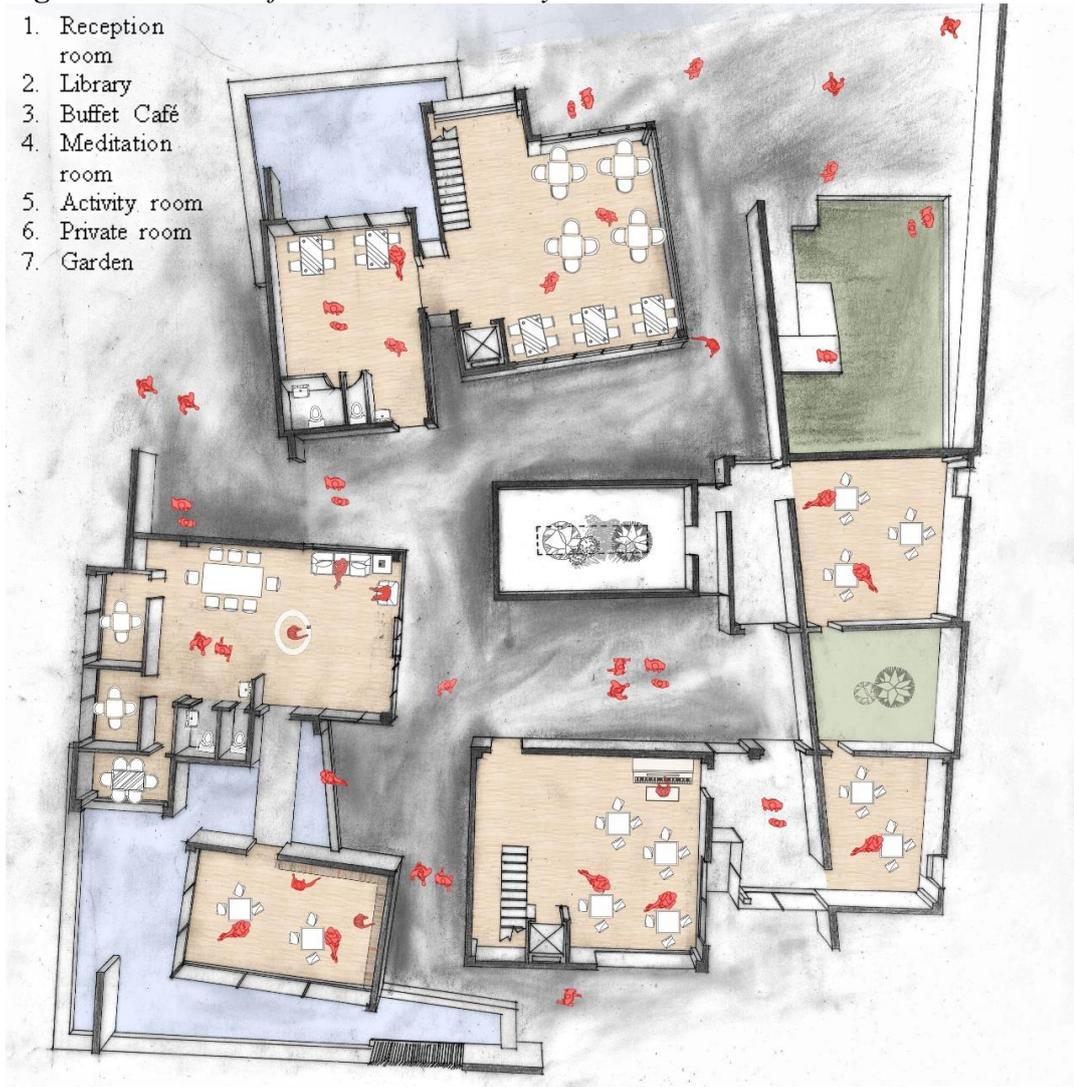
Figure 16. *The Ground Floor of Cancer Centre*



²³Maggie's (2014). *THE ARCHITECTURAL BRIEF*. [Online] Available from: https://www.maggiescentres.org/media/uploads/file_upload_plugin/competition-resource-pack/Maggie's%20resource%20pack-3.pdf. [Accessed 20/08/2016].

Figure 17. *Section of Placebo and Activity Room*

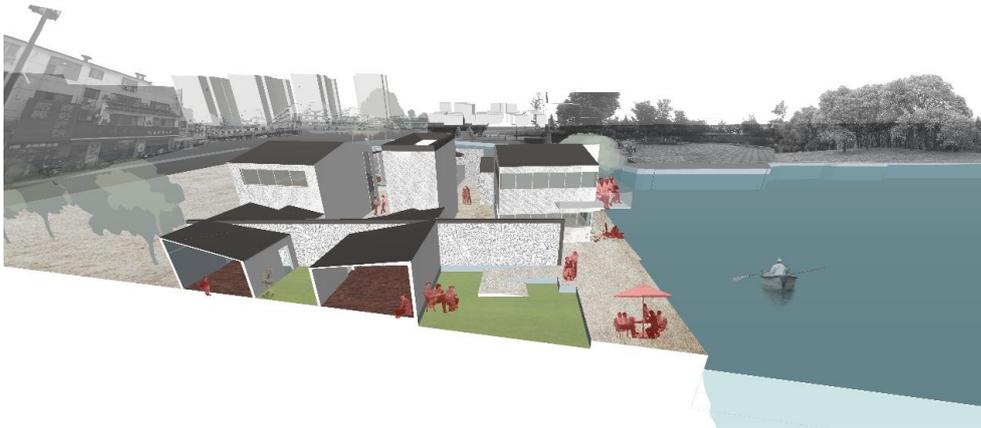
1. Reception room
2. Library
3. Buffet Café
4. Meditation room
5. Activity room
6. Private room
7. Garden



Landscape

It is important to cultivate the pleased environment around some space for peaceful and comfortable. The library is arranged around the water pool so that people could enjoy the relax water landscape during the reading. The big windows are set on the pleased orientation (south and east). There is a silent garden among the private rooms for the individuals. The setting of the Garden corner is essential in design; it is a half-closed water front space in which people could get a wide view of the moat landscape with fewer interruptions (Figure 18).

Figure 18. *Gardens between Private Rooms near the Moat*



Exterior (Figure 19)

There are some similar in roof design and the settings of walls and ponds. The building should be iconic and create awareness of cancer without stigmatizing the patients. Nord Architects solved the puzzle by designing a series of smaller houses shaped like traditional houses. The houses were then connected by a raised folded roof shaped like Japanese paper art origami²⁴. In that way, the building becomes a landmark with plenty of space without losing the comforting scale for the individual. The Suzhou traditional dwelling roofs are also slope. I design the small space shaped like the traditional Suzhou dwellings. The material of the roof is granite like the details of Suzhou Museum's roof and when it rains, the grey granite roof turns dark contrasting with white walls²⁵.

The investigation result of the appropriate environment for people includes the sense of quiet. It is necessary of sound isolation. The site is already placed at the corner of the green space. The distance and trees scatter the sound. There is the similar situation of Maggie's Centre London. Maggie's Centre London uses the wall around four sides providing protection from its exposed location and the noise insulation. The high wall as the equivalent screen is to reduce noise.

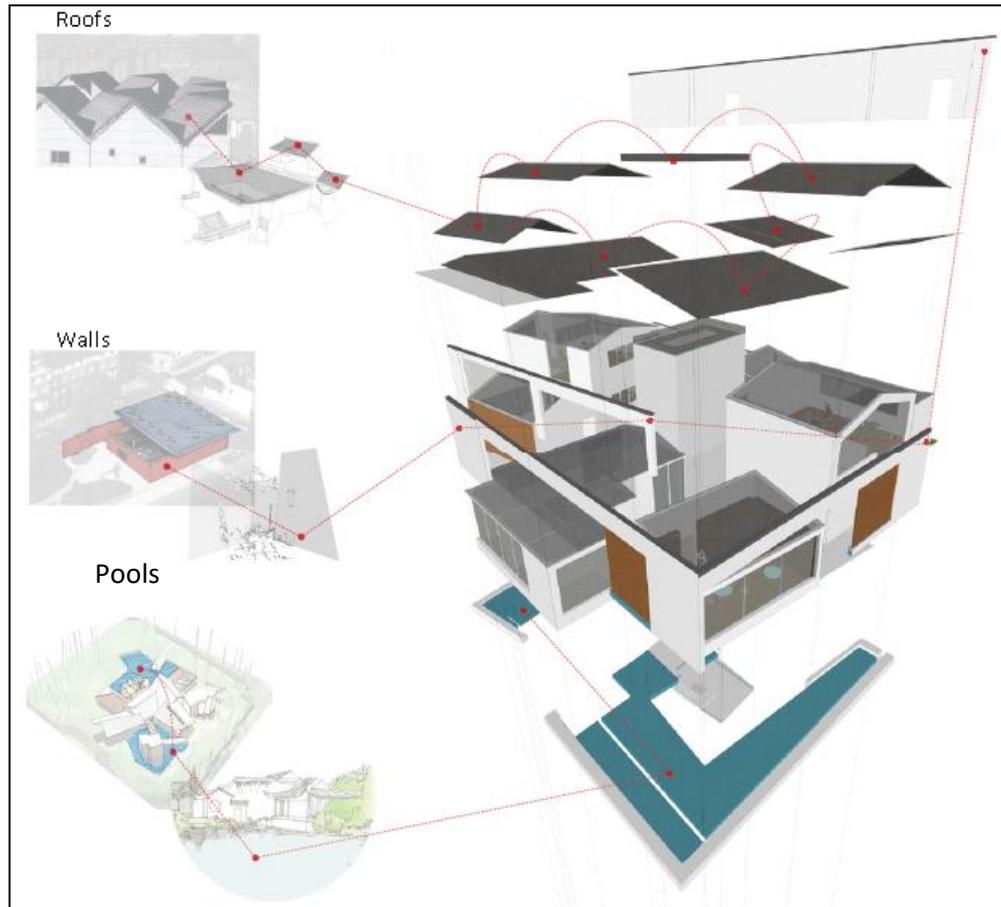
Water occupies the most important position in Suzhou Garden, there is no garden built without water landscape²⁶. There are several water pools around the function rooms.

²⁴NORD Architects Copenhagen (2011) *A place of recovery* [Online] Available from: <http://www.nordarchitects.dk/featured/healthcare-center/> [Accessed 04/08/2016].

²⁵Huang huishan. (2016). Traditional thinking fits modern technology -- taking suzhou museum as an example [J]. Shanxi: Appreciation.

²⁶Zhi Zheng. (2009). The discussion of the relationship between the idea of constructing Suzhou Garden and water landscape of the city [J]. Jingzhou: Journal of Liaoning University of Technology.

Figure 19. *The Exterior Strategy*



Interior

The interior space might be the friendly clubhouse within tea time. It should displace the fact of cancer from the exotic and horrific into the everyday and accepted²⁷. The interior environment is mainly to cultivate a warm, relaxing and comfortable ambience more like a home rather than a hospital. The furniture is the important device to enhance the domestic environment. For instance, sofas in Maggie Centre in Dundee instead the cold metal chairs (Figure 20). The pillow and cloth sofa enhance the warm atmosphere in the space. There are some artworks decorate interior. Because of the furniture and decoration, the interior environment of the Cancer Centre is relaxation and intimate. For the reception room as an example, cloth sofas are used for waiting and discussing. There is warm coloured painting held on the wall. The need for the environment to relieve stress has been an important intention in many schemes (Figure 21).

²⁷Jencks, C. & Heathcote, E. (2010). *The Architecture of Hope*. London: Frances Lincoln Limited.

Figure 20. *Interior in Maggie's Dundee*



Figure 21. *Reception Room Interior (Model)*



The flexible space is widely used in Cancer Centre. The design was conceived to make the building accessible; homely; personal and comfortable, with a layout that is open but which incorporates varying degrees of private space. In my design, I used less walls interior due to the flexible space indoors. If people want to have a private small space, they could use the partition.

Conclusions/Recommendations

The centre is not intended as a replacement for conventional cancer therapy, but as a caring environment that can provide mental, physical and social support. Usually, the centre is located near the existing hospitals. But the property of the centre is not the part of the hospital; it is a separate facility.

The appropriate environment should include these domains: the convenient distance should be not only close to hospitals but also near the crowd area of the people affected by cancer; the centre should have the beautiful nature. There should be private and quiet space in the Cancer Centre. There is a domestic ambience rather than the feeling of being in a hospital.

According to the theoretical knowledge and precedents, the environment of domesticity is essential to cultivate for cancer rehabilitation. For the local, traditional residential context is their memories as normal, such as the alley neighbourhood context and the placement of dwellings. The human-scale is appropriate to enhance the intimate ambience. The traditional Suzhou residential context contains the network of alley space and the size of dwelling buildings. It is similar in the existing Cancer Centres. The scale of them is not large. They all have the small pace like a home.

So if a new cancer centre is built in Suzhou in the future, the space in traditional residential area could be the reference in terms of human-scale.

And there should be appropriate activities be held and be classified by different environment. Some should be more active and some need quieter. The classification should be considered.

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