

**Consumer Experience and Satisfaction of Private Health  
Management Service Enterprises in China**

**XUE Yufeng**

Thesis submitted as partial requirement for the conferral of the degree of

**Doctor of Management**

Supervisor:

Prof. Ana Brochado, Assistant Professor, ISCTE Instituto Universitário de  
Lisboa

April, 2018



**Instituto Universitário de Lisboa**

Consumer Experience and Satisfaction of Private Health Management Service Enterprises in China  
XUE Yufeng

– Spine–

**Consumer Experience and Satisfaction of Private Health  
Management Service Enterprises in China**

**XUE Yufeng**

Thesis submitted as partial requirement for the conferral of the degree of

**Doctor of Management**

Jury:

Presidente: Prof. Ana Simaens, ISCTE-IUL

Doutor Wang Dong, Full Professor and Dean, School of Healthcare Services Management, Southern  
Medical University

Doutora Helena Rodrigues, Professora Auxiliar Convidada ISCTE-IUL e Universidade  
Europeia-IPAM

Doutor Joaquim Carlos da Costa Pinto, Professor Associado c/ Agregação, Departamento de  
Economia, Gestão, Engenharia Industrial e Turismo, Universidade de Aveiro

Doutora Ana Brochado, Professora Auxiliar (com Agregação), Departamento de Marketing, Operações  
e Gestão Geral, ISCTE-IUL

April, 2018

[This page is deliberately left blank.]

## Declaration

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed: XUE YUFENG

Date: 2018-04-08

Name: XUE Yufeng

## 作者申明

本人郑重声明：除了论文致谢中明确说明并致以谢意的部分外，所提交的论文不包含任何他人或作者本人已用于获得任何教育机构的学位和证书而使用过的材料。同时尽我所知，除了文中特别加以标注引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写的成果作品。

作者签名：薛煜峰

日期：2018-04-08

姓名(拼音): XUE Yufeng

[This page is deliberately left blank.]

## **Abstract**

The private health management service industry in China still has a long way to enjoy the same maturity and success as the Chinese public healthcare enterprises. Carrying out research about private health management service company in China has both theoretical and practical values.

Through the methods of literature research, this thesis studies on the development, characteristics and situation of private health management service industry in China, as well as relevant literature review on health management. In China, most medical institutions provide related health management services, among which the physical examination is the most important item. Both strengths and weaknesses of public and private health management service enterprises are summarized through SWOT analysis.

The research method of content analysis is brought into the study of consumer experience and satisfaction about physical examination services in China. Taking Meinian Onehealth Healthcare Holdings Co., Ltd. as an example, the main factors define customer experience and determine their satisfaction and dissatisfaction is researched through content analysis of online reviews from websites by ROST-CM software, and both the positive and negative reviews are analyzed respectively from the aspects of word frequency and semantic network.

The main factors influencing customer satisfaction are divided into six themes: service, technology, environment, price, procedure and consultation. In service, the service attitude of doctors and staff is the most important factor for customers. In the theme of technology, the advanced level of examination equipment and the professional level of medical staff, as perceived performance, are more important factors affecting the consumer satisfaction. In the theme of procedure, optimizing physical examination procedure and shortening waiting time are important factors to improve customer satisfaction. In the theme of consultation, strengthening health education and keeping track of customers' health situation are also important factors to improve satisfaction.

Based on the results of analysis, five effective marketing strategies in the health management industry is put forward, mainly including service quality strategy, brand strategy, competing strategy, customer relationship strategy and price strategy.

Keywords: health management; customer satisfaction; content analysis; marketing strategy

JEL: M1; I1; O53



## Resumo

A fim de alcançar a maturidade e sucesso da saúde pública, ainda há um longo caminho a percorrer pela indústria de serviços de gestão de saúde privados na China. Por isso, existe valor teórico e prático para a realização de investigação em empresas privadas de serviços de gestão de saúde na China.

Este trabalho introduz sistematicamente o desenvolvimento, as características e o estado actual da indústria de serviços de gestão de saúde da China por meio de pesquisas bibliográficas e de revisão de literatura sobre gestão de saúde. O trabalho compara as forças e fraquezas das organizações de serviços de gestão de saúde privadas e públicas.

Neste trabalho, o método de pesquisa de análise de conteúdo é introduzido no estudo da experiência e satisfação do consumidor com os serviços privados de gestão de saúde na China. Como caso de estudo foi usado o Meinian Onehealth Healthcare Holdings Co., Ltd. Com recurso ao software ROST-CM, foi efetuada a análise de conteúdo dos comentários online, e identificados os principais factores que influenciaram a experiência do cliente. A análise de elogios e críticas negativas foi realizada em termos de frequência de palavras e rede semântica.

Os principais factores que afectam a satisfação de cliente são divididos em seis temas: serviço, tecnologia, ambiente, preço, processo e literacia. Ao servir clientes, a atitude de médicos e funcionários é particularmente importante para a satisfação de clientes. Em termos de tecnologia, o equipamento de exame médico avançado e o nível profissional de equipa médica são benefícios perceptíveis do exame médico e factores importantes de satisfação de consumidor. O ambiente do centro de exames médicos não causa tanto impacto como o serviço e a tecnologia. Em termos de preço, consumidores costumam usar "acessível" ou "caro" para expressar sua avaliação subjectiva do número de itens e o valor de serviços recebidos em um exame médico. Em termos de processo, otimizar o processo de exame médico e reduzir o tempo das filas de espera são factores importantes para a satisfação de

exame médico. Em termos de literacia, fortalecer a educação em saúde e acompanhar a saúde de clientes também são factores importantes para a satisfação com o exame médico.

Tendo por base os resultados obtidos, são propostas cinco estratégias de marketing eficazes adaptadas às empresas de serviços de gestão de saúde, designadamente estratégias de promoção de serviços, estratégias de promoção de marca, estratégias de concorrência, estratégias de relacionamento com clientes e estratégias de preço.

Palavras Chave: gestão de saúde; satisfação de cliente; análise de conteúdo; estratégias de marketing

JEL: M1; I1; O53

## **Acknowledgement**

This thesis is a demonstration of the results in my DBA study! Looking back the past years' hard working, I would like to extend my sincere gratitude to ISCTE Lisbon University Institute and Southern Medical University of China, which provide me such precious learning opportunity.

I would like to express my gratitude to all those who have helped in bringing this thesis to a successful end. During the whole process of working on my research, my supervisors, professors, friends and my family have given me so much. Therefore, I would like to take this great opportunity express my sincere gratitude; first of all, to my supervisor Prof. Ana Brochado, she has been such a helpful, conscientious professor. I have benefited so much from her careful, well-conceived and insightful supervision for my research work.

Secondly, I would like to express my appreciation and deep respect to Prof. Virginia Trigo, She have become experts on China's national conditions and enterprise development. Prof. Virginia Trigo has offered a lot of help and support for my study and research.

I would also pay thanks to the DBA staff of Southern Medical University. They have set up a wonderful platform for my studies. I would also thank my DBA classmates for their encouragement and support. I have also harvested great friendship with all of them.

I would pay special thanks to my family. They have given me such understanding and tolerance. They have provided me with so much warmth, care and love. They have made my study and research possible.

[This page is deliberately left blank.]





# Contents

Chapter 1: Introduction .....	1
1.1 Background .....	1
1.1.1 The development of healthcare industry in China .....	1
1.1.2 Challenges for health management enterprises in China .....	6
1.2 Issues and framework.....	10
1.2.1 Issues and objects of the research .....	10
1.2.2 Content and framework .....	13
1.3 Research method .....	15
1.4 Contributions to theory and management .....	17
Chapter 2: Development and Characteristics of Health Management Service Industry in China	19
2.1 The development of China's health management service industry .....	20
2.1.1 Development of health management service industry .....	20
2.1.2 The status quo of China's private healthcare delivery .....	27
2.2 Development of health management services industry in the United States .....	29
2.3 The characteristics of the physical examination service in China .....	31
2.3.1 The current development of physical examination service in China .....	31
2.3.2 Consumers and check-up packages .....	34
2.3.3 SWOT analysis of private physical examination center .....	36
2.4 Introduction of Meinian Onehealth .....	42
2.4.1 The main services provided Meinian Onehealth.....	42
2.4.2 Management model .....	43
2.4.3 Development strategy.....	45
2.5 Brief summary .....	46
Chapter 3: Relevant Theoretical Literature Review .....	48
3.1 Relevant literature review on health management .....	48
3.1.1 The concept of health management.....	48
3.1.2 Main content of health management research.....	50
3.1.3 Characteristics of health management services.....	51
3.2 Maslow's hierarchy of needs .....	52
3.2.1 Content of Maslow's hierarchy of needs .....	52
3.2.2 Characteristics of consumers' needs in health management.....	54
3.2.3 Influencing factors of consumers' needs in health management .....	55

---

3.3 Overview of service marketing .....	57
3.4 Services quality and customer satisfaction in healthcare industry .....	59
3.4.1 Customer experience in healthcare Industry .....	59
3.4.2 Customer satisfaction in healthcare industry .....	61
3.4.3 Services quality in healthcare industry.....	64
3.4.4 Chinese hospital patient experience and satisfaction monitor .....	67
3.5 Brief summary.....	69
Chapter 4: Research Method: Content Analysis .....	71
4.1 Introduction of content analysis .....	71
4.1.1 Basic concept.....	71
4.1.2 Process of content analysis.....	73
4.1.3 Characteristics and applications of content analysis method .....	74
4.2 Method of acquiring information data .....	75
4.3 Chinese data processing and analysis.....	77
4.3.1 Data Processing .....	77
4.3.2 Data analyzing method.....	78
4.4 Brief summary.....	79
Chapter 5: Content Analysis on the Online Review of Products of Meinian Onehealth .....	81
5.1 Analysis of positive online reviews of physical examination service.....	82
5.1.1 Word frequency analysis .....	82
5.1.2 Semantic network analysis .....	84
5.2 Analysis of negative reviews.....	86
5.2.1 Word frequency analysis .....	86
5.2.2 Semantic network analysis .....	88
5.3 Discussion .....	90
5.3.1 Service .....	92
5.3.2 Technology.....	93
5.3.3 Environment .....	98
5.3.4 Price.....	99
5.3.5 Procedure.....	99
5.3.6 Consultation .....	100
5.4 Marketing strategy.....	102
5.4.1 Quality strategy .....	102
5.4.2 Brand image strategy.....	103
5.4.3 Competing Strategy .....	103
5.4.4 Customer relationship strategy.....	106
5.4.5 Price strategy .....	107



---

5.5 Brief summary.....	108
Chapter 6: Conclusions and Outlook .....	110
6.1 Conclusion and discussion .....	110
6.2 Limitations and avenues for future research .....	113
Bibliography.....	114
Webliography .....	128

---

[This page is deliberately left blank.]

---

## List of Table

Table 2-1 Policies to Promote the Development of Health Management in China .....	24
Table 2-2 Diseases with A High Rate of Detection in Physical Examination in China .....	377
Table 2-3 Physical Examination Items in the Packages in china .....	388
Table 2-4 Revenues of Meinian Onehealth in 2015 and 2016 .....	433
Table 5-1 Key Words with the Highest Frequency in Positive Reviews.....	833
Table 5-2 Correlation Frequency between Some of the Important Key Words .....	877
Table 5-3 Key Words with the Highest Frequency in Negative Reviews .....	888
Table 5-4 Six Themes and Concept Words .....	944
Table 5-5 Qualitative Content Analysis.....	955
Table 5-6 Factors Affecting Customer Satisfaction in Physical Examination .....	966

---

[This page is deliberately left blank.]

---

## List of Figure

Figure 1-1 Main Health Threats in Urban China .....	3
Figure 1-2 Main Health Threats in Rural China.....	3
Figure 1-3 Framework of the Thesis .....	16
Figure 2-1 The main contents of Health Management Service.....	23
Figure 2-2 Trinity Model.....	266
Figure 2-3 The "Three-in-one" Model .....	31
Figure 3-1 Maslow's Hierarchy of Needs.....	53
Figure 3-2 Patient Satisfaction Psychological Process .....	622
Figure 3-3 Chinese Hospital Patient Experience and Satisfaction Monitor.....	688
Figure 4-1 Relationship of Content Analysis, Product Review, and Marketing Strategy .....	766
Figure 4-2 Interface of ROST-CM .....	799
Figure 5-1 Semantic Network of Positive Reviews .....	877
Figure 5-2 Semantic Network of Negative Reviews.....	899

---

[This page is deliberately left blank.]

## **Chapter 1: Introduction**

### **1.1 Background**

With the rapid development of China's economy, health management has become more and more important to people, who gradually develop the concept of early disease prevention and treatment. Checking the disease at the early stage and taking proactive treatment when there is a chance of disease can minimize the possibility of future attacks and make early treatment more thorough. China has made the promotion of population health an important national strategy, bringing services industry tremendous opportunities of development. The abundance of health management services not only provides consumers with more choice but also aggravates market competition in the industry. How to strengthen the management of health services quality with effective service marketing strategies, and improve consumer satisfaction are issues that health management service companies urgently need to solve. Therefore, the study of customer's consumption experience and satisfaction in health management service has certain practical significance in management for the development of enterprises in China.

#### **1.1.1 The development of healthcare industry in China**

Health is the need of people's livelihood, and also the basis for the comprehensive development of human beings. Since the 1980s, China's health indicators have further improved. The per capita life expectancy in China has increased from 67.9 years in 1981 to 74.8 years in 2010, much higher than the world's average life expectancy of 70 years. Of all the factors that affect China's future human development, the most far-reaching ones are the profound changes in the demographic structure, especially the rapid aging population. According to the international standard that the proportion of the population aged 65 and above in the total population reaches 7%, China became an aging society in 2000. By the end of 2014, China's elderly population aged 60 and above reached 212 million, accounting for 15.5% of the

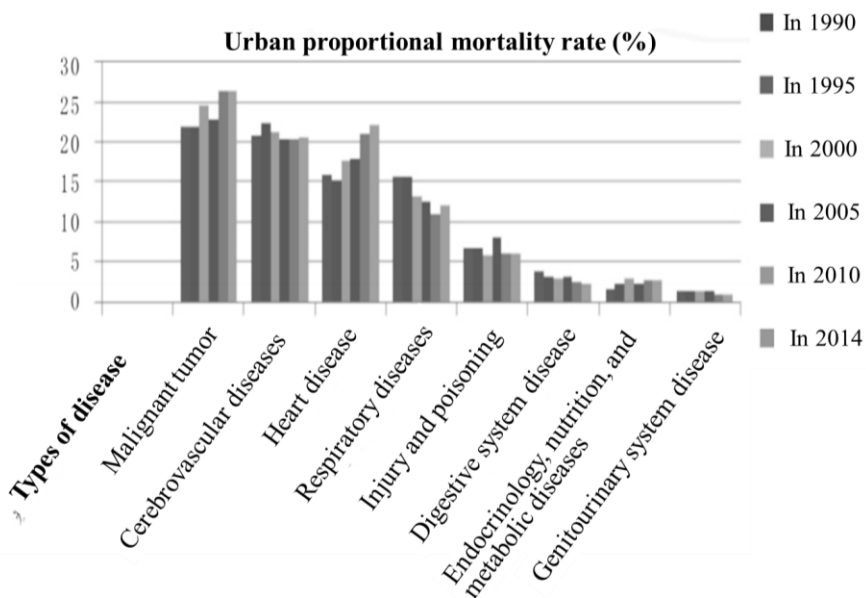
total population. Among them, the aged population aged 65 and above was 138 million, accounting for 10.1% of the total population (United Nations Development Program, 2016).

Because of the change of population structure, extension of life spans and the transformation of disease epidemiology mode, the quantities of needs and demand as well as the connotation of health service have experienced essential changes. These changes have brought opportunities for development and severe challenges to the national health policies and health service system reform (Rao, Yin, & Liu, 2000). The Chinese government spares no efforts to carry out the healthcare reform to improve the healthcare, and the result is satisfying (Bali & Ramesh, 2017). As shown in Figure 1-1 and Figure 1-2, Chinese people are facing great threats of many diseases in health (Dai, 2017). It is related to unbalanced diet, aggravated pollution, stressful living condition, ecological damage, and so on. With the sound development of China's economy and the gradual improvement of people's material living standards, chronic non-communicable diseases caused by poor lifestyles are gradually threatening the people's health. At the same time, as China enters an aging society, the incidence of chronic non-communicable diseases (hereinafter referred to as chronic diseases) is on the rise. Chronic diseases account for 70% of the diseases, and the cause of death has risen to 85% (National Health and Family Planning Commission of the PRC, 2015a). Chronic diseases have become the first health killer in China. The number of patients with cardiovascular and cerebrovascular disease reaches 230 million. Among them, cerebrovascular disease such as stroke is the first cause that leads to death, whose incidence is increasing at an annual rate of 8.7%. Without proper measures, the number of chronic patients is expected to be doubled by 2020. Both hypertension patients and hyperglycemia patients has increased significantly in the last 10 years, and the prevalence of dyslipidemia and obesity in Chinese adult was as high as 18.6% (Dai, 2017). Another serious problem is cancer. According to Cancer Statistics in China, there were 4,292,000 new cancer cases and 2,814,000 deaths caused by cancer in 2015 (National Health and Family Planning Commission of the PRC, 2015a). A report by Deloitte (2015) indicates that China's annual expenditure on healthcare is rapidly increasing at an estimated average growth rate of 11.8 % every year. Additionally, the report also estimated that the annual expenditure on healthcare would reach 892 billion US dollars by 2018. These statistics are justified by the progressively



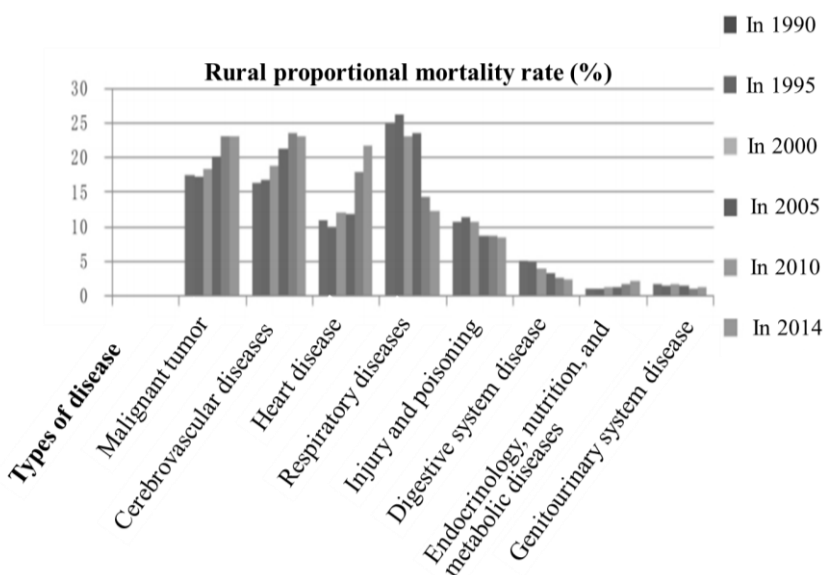
wealthy Chinese population and various reforms conducted by the government in the public health sector (Eggleston, 2009).

Figure 1-1 Main Health Threats in Urban China



Source: Adapted from Dai (2017)

Figure 1-2 Main Health Threats in Rural China



Source: Adapted from Dai (2017)

Faced with the rising prevalence and mortality of chronic diseases and overburdened medical expenses and social burdens, we can learn from the experience of western developed countries that excessive treatment of chronic diseases through intensive treatment and

advanced technology results in rapid increase in medical expenses and little effect in the control of the incidence rate of the population; on the contrary, through the extensive implementation of health promotion, prevention services and health management, the cost is relatively low, achieving very good economic and social result (Liu, 2003).

Healthcare industry is an industrial cluster based on medical knowledge and technology. With the integration of disease prevention, health care, treatment and rehabilitation, the healthcare industry aims to improve the health condition of citizens. On the premise of the macroscopic outlook on health, it is mainly aimed at healthy, subhealthy, and diseased people, covering their whole life circle. The whole healthcare industry involves the industrial chains and systems that are directly or indirectly related to health. It is composed of the medical and health service industry based on medical and health institutions, the healthcare insurance industry based on social and commercial health insurance institutions, the health management and promotion industry that provides health examination, healthcare consultation, recuperative rehabilitation, and other healthcare services, the new emerging healthcare service industry that integrates medical tourism, healthcare for the aged and smart healthcare service, and some supporting industries related to the wholesale, retail, leasing, R & D, education, business services of healthcare products (Han et al., 2017).

At present, China's healthcare service system not only covers medical services, health management and promotion service, health insurance and other healthcare related industries, but also involves drugs, medical instruments, healthcare products, healthcare food, fitness products and other supporting industries, yet in small scale. The healthcare industry accounts for only 4%~5% of GDP, which is far less than that in many developing countries. In 2012, the proportion of healthcare service in American GDP was up to 16.9% (Han et al., 2017). In 2014, Chinese healthcare industry, including traditional medical services and big health industries of medical circulation service exceeded 5 trillion yuan. From 2010 to 2014, the compound annual growth rate of healthcare industry was 17.89%; the compound annual growth rate of pharmaceutical manufacturing industry was 18.62 %; the compound annual growth rate of social healthcare service industry was 23.12 %; the compound annual growth rate of medical equipment industry was 20.88 %; and the compound annual growth rate of medical tourism

industry was 30.89 %. With the introduction of related policies to promote service industry, China's healthcare service industry has entered a period of rapid growth (Han et al., 2017).

In October 2016, the CPC Central Committee and the State Council clearly stated in the “Healthy China 2030 Plan Outline” that “the upgrading of consumption structure will create a broad space for the development of health services” In terms of guiding ideology, they advocated that “we should focus on popularizing healthy life, optimizing healthcare services, improving health security system, creating healthy environment and developing healthy industries”. Additionally, they required that “the total scale of healthcare services in China shall reach 16 trillion yuan by 2023”. Under the background of “Healthy China”, the healthcare service industry in China will become a highlight with the greatest potential for the economic transformation in the “13th Five-Year”. The healthcare service industry related to the concept of “big health” is rising rapidly and will become the key factor that promotes Chinese economic growth in the future (Luo, 2016). “Several Opinions of the State Council on Promoting the Development of the Health Services Industry” released in 2013 officially listed health management and promotion as an important part of the health service industry. With the introduction of the “Healthy China” strategy of the National 13th Five-Year Plan, the development of health management services focusing on individual and group health resources is facing good opportunities. The industry in China is in the early stage of growth, imperative to conduct study theoretically on the characteristics of industrial development and the business strategies of health management service companies. Currently, the industry ushers in opportunities for rapid development, and intends to develop on service models, concepts, and management services (Liu & Wang, 2016).

In recent decades, with the rapid economic development and the continuous improvement of people's living standards in China, people are gradually aware of health problem and spend more money and time on disease detection and prevention. Then, the health management, as an approach of comprehensive health risk prevention that encourages individuals to take actions to improve health and organizations to support positive health practices, is warmly welcomed by people (Bai, 2007). The concept of health management in china originated from the term 'managed healthcare', which was firstly put forward in the United States in the 1960s. It describes a series of activities ostensibly that intend to reduce the cost of health care while

improving the quality of that care (Liu & Wang, 2016). In the late nineteenth century, many countries actively followed the United States and implemented their own health management programs. Their prosperity brought huge social and economic returns and promoted the development of the entire healthcare industry. At the same time, many health management companies seized the opportunity for development (Liu & Wang, 2016). Health status is importantly influenced by behavioral, social, and environmental factors, progress depends on a stronger commitment to population-wide health programs. Elevate the focus on prevention, ranging from clinical preventive services to community health and wellness (Olsen, Saunders, & Yong, 2010).

### **1.1.2 Challenges for health management enterprises in China**

The concept of “health management” stems from the United States in the 1960s, which refers to the comprehensive detection, analysis, assessment and prediction of health conditions and risk factors for people with different health conditions and demands. It not only provides a professional health consultation and guidance service, but also makes a healthcare plan to coordinate the relationship among the individual, the organization and the society, so as to systematically intervene and manage various health risk factors, aiming at preventing the occurrence of diseases, reducing medical expenses, improving the quality of life and achieving the greatest health effects (Fu, Feng, & Chen, 2011). The concept of health management began to spread to China in the 1990s. Health management has been increasingly welcomed by Chinese residents since introduced.

The health management service industry refers to the business model or innovative business in terms of personalized health assessment, consultation service, recuperate rehabilitation, health promotion and health insurance. Based on the theory of whole- process intervention and combined with the methods of health management, it has applied innovative technologies such as biomedical technology, information management technology, big data, etc (Liu, 2014). It is of great potential significance to solve the problems of the current medical costs, chronic diseases and ageing population, and to meet the demands for diverse and high-quality health services. The rise of China's health management service industry has only been more than two decades, but it has developed rapidly. From 2009 to 2014, the scale of health management in

China increased by an average of 5.6% annually. In 2014, the scale of the market reached 96 billion yuan, and the employees exceeded more than 100 thousand people. It is expected that the scale of China's health management service market will exceed 300 billion yuan in 2020 (Guo, 2016).

At present, there are a variety of health management service institutions in China, mainly including health management medical service institutions (such as health management center and physical examination center in medical institutions at all levels, and independent health management institutions); non-medical health management service institutions (providing leisure service, beauty service, healthcare service, sports and rehabilitation); integrated health management service institutions (such as convalescent hospital, high-end health club, elderly care center, and the third party health management institutions) (Chen, Meng, & Shi, 2014). In 2013, the number of national health management institutions (mainly physical examination centers) has increased from about 2,000 in 2000 to more than 10,000; there are nearly 500,000 employees and annual physical examinations have exceeded 400 million; there are more than 600,000 non-medical health management institutions and 3 million staffs (Bai et al., 2015).

All health management service institutions have different types of resources, so they have different operation modes and customers. With the help of the Internet, health management service institutions provide comprehensive and continuous healthcare services in health testing, assessment techniques, nutrition scheme, exercise plan, and psychological intervention, so as to help people develop a correct concept of health and a reasonable way of life (Chen, Meng, & Shi, 2014). The current health management service in China mainly include the physical examination, and the service aimed at preventing diseases, whose target customers are the healthy or sub-healthy groups and patients with various chronic diseases. Its services include disease prevention, health condition improvement, lifestyle management, chronic disease management, and medical needs management, etc.

The development of China's health management service market is not yet mature (Dong, 2007). The government has not yet effectively solved many key issues such as industry norms, technical operation standards of examination, and fees in healthcare industry, and has not established a set of completed supervision and management mechanisms. In the distribution of

medical and health resources, clinical treatment of diseases is favored, and investment in health management services is relatively weak. At present, domestic health management services are mainly health check-up, and the content and quality of service in different medical institutions are not the same. (Li & Ding, 2010)

At the same time, despite the generally low level of China's healthcare consumption, the increase of the consumption has a rapid increasing speed. Since the reform and opening up, the growth rate of health care expenditure of urban and rural residents in China has been around at 15% to 30%, which is higher than that of 13% in developed countries (Lu, 2002). The rapid increase in health care consumption reflects that public's concern for physical health is continuously increasing, and their willingness to invest in physical health is also rising. With the change in the concept of public health care, the awareness of health care continues to increase, and more and more people are aware of health management. The demand for quality of health management services and the ability of evaluating and discriminating are strengthened with better understanding of health management. People are more rational when choosing institutions. So strength of a company is the only thing it can rely on to win consumers' trust. If they cannot meet the needs of consumers, failure to do so will result in elimination by the market (Hu et al., 2012).

In an increasingly competitive and customer-oriented market environment, more and more companies focus on the improvement of customer satisfaction (Xu, 2008). With the continuous implementation of the reform of the national medical and health system as well as the changes in modern medical model, providers of medical and health services are not only required to pay attention to efficacy and technology, but also to awareness of "people-oriented" and "patient-centered.". With the introduction of national health policies such as "healthy China" and "further improving medical service action plans", the main purpose and direction of medical reform in the future have become focusing on patients and improving their medical experience (National Health and Family Planning Commission of the PRC, 2015b).

With the continuous deepening of the reform of the medical and health system, improving the quality of health management services is an effective measure for the organizations to continuously improve consumers' satisfaction. Facing the competitors' continuous improvement of the medical environment, equipment and facilities, as well as the upgrading of

medical consumables, the health management service organization should figure out critical issues like how to obtain high-quality service and high-end medical technology. At present, China is gradually opening up space for policies of health management service industry, and with a variety of capital pouring in, investors are optimistic about the health market. The number of health management institutions has increased whose management model is the newest services are diversified. New technologies for health management are emerging. And there is also more options for consumers to choose from. Consumers will turn to other institutions if the quality of service is not guaranteed with high rate of complaints and misdiagnoses. Therefore, it is a must and also a challenge for health services to improve the level of medical care and service quality for further development.

When China embarked on the road to a market economy in the late 1970s, it had a stagnant economy but a functioning healthcare system that was the envy of the developing world. In 1982, the infant mortality rate (IMR) was an impressive 34 per thousand live births, while life expectancy stood at 68 years. More remarkably, these achievements were attained at a relatively low cost: total expenditure on health (TEH) accounted for only 3% of GDP (Ramesh, Wu, & He, 2013). But they have also affected health care in China in ways that are still not fully understood. One important consequence has been the proliferation of fee-for-service private medical practice in a largely unregulated environment (Lim, Yang, Zhang, Feng, & Zhou, 2004). Since 1980, when market-oriented reforms began in earnest, China has made spectacular progress in improving living standards and lifting millions out of poverty. By contrast, its health system, which was once revered by health specialists worldwide, has found itself increasingly the subject of negative comments both in China and abroad. One persistent set of criticisms concerns the delivery system, which has been argued to be inefficient, prone to the provision of unnecessary care, of poor quality, overly focused on drugs and high-tech care, and insufficiently focused on public health. However, while there is broad agreement that the system needs reform, there is less agreement on the causes of the system's failure and the reforms necessary to improve it. Some suggest that the solution is to encourage greater competition in the sector, including between private and public providers (Eggleston et al., 2008).

In terms of ideology, China's social ideology under the socialist system has found state-funded enterprises more popular. During the early stage of Chinese economic reforms, the phenomenon of "state-owned preferences" was more prominent, and still exists contemporarily (Wagstaff et al., 2009). From the perspective of customers, the ideology of "state-owned preferences" poses a great challenge to the development of private health management service companies. Compared with public hospitals, customers lack trust in private companies that aim at profit naturally. Therefore, they are often unwilling to pay, and this reluctance is magnified by prices of service in public hospitals. Customers willing to give it a try are more demanding about the quality of service, making it more difficult to achieve customer satisfaction.

## **1.2 Issues and framework**

### **1.2.1 Issues and objects of the research**

The evidence above shows that private health management service companies in China are facing severe competition with public hospitals. At the same time, they are also limited in market scale due to medical insurance policies, "state-owned preferences" ideology, medical equipment, management level, and personnel quality, which obviously inhibit their growth and development. Therefore, for further development, these enterprises should find out the methods and mechanisms to deal with these challenges as quickly as possible.

The twenty-first century is the era of experience economy, in which experience refers to a series of feelings of consumers consumption. With the change of patient-oriented medical mode, the medical treatment is regarded as a special consumption behavior. The experience of a patient in a particular medical institution may affect his or her next choice for medical treatment or even make them recommend the hospital to others (Tan & Zhang, 2014). Patient satisfaction is a driving force for the reform of the medical and health system. Through the satisfaction survey, it discovers existing problems and provides scientific decision-making basis for management improvement (Hou & Ma, 2011). With the introduction of national health policies such as "healthy China" and "further improvement of medical service action plans", the medical reform is centered on patients and aims to improve their medical experience,



whose main purpose and direction is to provide safe, effective, and convenient medical services. Therefore, it is necessary to discuss the fundamental issue: What do Chinese consumers think of health management service and how do they evaluate it? What should companies do to improve the overall level of service quality and what kind of marketing strategies is effective?

With the continuous advancement of the reform of China's medical and health system, the importance of patient satisfaction surveys has gradually been recognized. At the end of the 1980s, the Ministry of Health of China began to divide hospitals into one, two, and three grades, conducting graded management reviews, and stated clearly in related documents that surveys about patient satisfaction should be conducted (Ren, 2003). On December 21, 2015, the National Health and Family Planning Commission, the Ministry of Human Resources and Social Security, the Ministry of Finance, and the Ministry of State Administration of Traditional Chinese Medicine jointly issued the "Guiding Opinions on Strengthening the Performance Evaluation of Public Health Institutions" (hereinafter referred to as the "Guiding Opinions"), regarding satisfaction of patients as an important part of the performance evaluation of medical institutions (National Health and Family Planning Commission of the PRC, 2015c). At the same time, the "Guidance Opinion" clearly stated that the evaluation subject should be diversified and encouraged the full use of professional agencies, industry associations and other third-party agencies, especially the first choice of commissioned third-party in evaluation. The investigation of satisfaction has already become an important task for national ministries and commissions.

It is very necessary and meaningful to carry out research on the health management service industry for further development, and many Chinese scholars have taken actions. For example, Zhao, Zhou and Zhou (2017) analyzed the feasibility of implementing business model in health management industry in China based on the analysis of its background, and put forward an overall framework of the management model. Zhang and Zhao (2015) analyzed the status and prospects the development of public and private health management. Li et al. (2017) carried out researches on the status and development of health management service enterprises in China. Xi (2014) did statistics about the rapid development of private medical industry. Dai et al. (2008) implemented the "Total Quality Management System" in the Nanfang Hospital Health

Checkup Center, and the passing rate of the physical examination report was significantly improved, the time for the specific inspection report was significantly shortened, the degree of customer satisfaction was improved, the complaint rate was reduced, proving that the improvement of the physical examination quality was effective. However, these studies were carried out mainly at the macro level, or aimed at a specific company taking government policies and market conditions into consideration. There is fewer systematic researches from the perspective of customer experience and satisfaction on the health management service industry.

At present, most countries believe that in the field of medical and health services the evaluation of medical services can be carried out in three aspects: clinical standards, economics, and patient perspectives (Sitzia, 1997). Patient perspectives and evaluations are increasingly valued by healthcare service managers. Patient satisfaction surveys have emerged as a matter of course, which concisely describe the health service from the perspective of patient observation, examine hospital service quality and patient loyalty to service providers, and propose quality improvement measures and service development strategies accordingly (Yang, 2005). With the deepening of the cognition and understanding of modern scientific management concepts, in today's fierce competition in the medical service market, hospitals has paid greater attention to the views and feelings of their patient customers. Many international scholars believe that more focuses on conducting patient satisfaction surveys and emphasizing the concept of experience are conducive to the continuous improvement of medical service quality (Ji, 2004). However, the research on patient satisfaction in China started late compared with that in foreign countries, and assessment tool is not well equipped. The scale used in surveys conducted by various hospitals are mostly designed by their own staff, distributed and recalled on the spot, and the choice of respondents is lack of randomness. So the satisfaction value is often very high, but it is far from the fact that there are actually sharp conflicts between doctors and patients. The results are hardly convincing (Liu & Cao, 2005).

There are not too many research methods for customer satisfaction and service quality, and a series of in-depth studies focusing on the efficiency of medical services have been carried out, as well as comprehensive evaluations for medical institutions. In the existing

studies, only a few researches are on the customer experience of health services and the degree of satisfaction resulting from differences in the experience and expectations of service quality. Accordingly, this study focuses on the difference between customer experience and expectation, and proposes the use of content analysis methods to measure the difference, and further measures their satisfaction.

In order to make up for this deficiency, this study takes the empirical case of Meinian Onehealth Holdings Co., Ltd (Meinian Onehealth), China's largest private chain group of health check-up and service. The study focuses on the customer's experience and satisfaction in the health management services, collecting online reviews and useful information, which provides reference for follow-up studies. In order to fully solve the problems, the main objectives should be first proposed. Fundamentally speaking, this study aims to explore how to improve the quality of health services so as to attract more consumers and provide a reference for Chinese private health management companies to formulate reasonable marketing strategies. Therefore, two specific questions should be discussed: what are the main dimensions of the physical examination service experience for customers? what are the main themes linked with their satisfaction and dissatisfaction?

### **1.2.2 Content and framework**

In recent years, research on the health management service industry has gradually been carried out in China, but most of them only focus on the development of the industry, only a few on marketing strategies from the perspective of customers. This article firstly introduces the development and characteristics of China's health management service industry based on relevant theoretical literature reviews, and compares the industry at home with that abroad; this article focuses on the empirical case of Meinian Onehealth, China's largest private chain group of health check-up and service, analyzing the main factors that influence the customer's experience and satisfaction, and puts forward specific measures and corresponding marketing strategies to improve the quality of the health service. This article has certain theoretical and practical significance for the development of China's health management service industry.

The framework of the research is shown in Figure 1-3. The main structure is as follows:

The first chapter makes a clear introduction of the background of the research and various related issue, clarifying the theoretical framework and the practical significance of the research.

Chapter 2 firstly introduced the development of health management services in China. Through SWOT analysis of the strengths and weaknesses of the services of the private physical examination centers, this chapter makes an introduction of the Meinian Onehealth from three aspects: main services, management models and development strategies.

Chapter 3 is an introduction of relevant theoretical literature reviews. Firstly, the theoretical research on health management is reviewed; Maslow's hierarchy of needs theory is then introduced, as well as the characteristics and influencing factors of consumers' demand; then, the concept and characteristics of service marketing are introduced; at last the concept of medical service quality and customers' satisfaction is introduced. These theories can be used as reference for future research.

Chapter 4 introduces the content analysis method used in the study of the consumers' experience and satisfaction. This chapter systematically introduces the concept, process and characteristics of the method, and related methods of information acquisition and analysis. This chapter lays a foundation for the analysis in the next chapter.

In Chapter 5, the key factors affecting the satisfaction of consumers are analyzed in depth in order to conduct research on the consumers' experience and satisfaction of physical examination services; this chapter adopts the content analysis method to analyze the online reviews of service of Meinian Onehealth from the aspects of word frequency statistics and semantic network analysis; based on the analysis results, this chapter discusses the key influencing factors and puts forward some new marketing strategies.

In Chapter 6, the summary of the thesis and outlook of the research is carried out. This chapter summarizes the main work and conclusions, and puts forward the limitations of this research and future directions of the research.

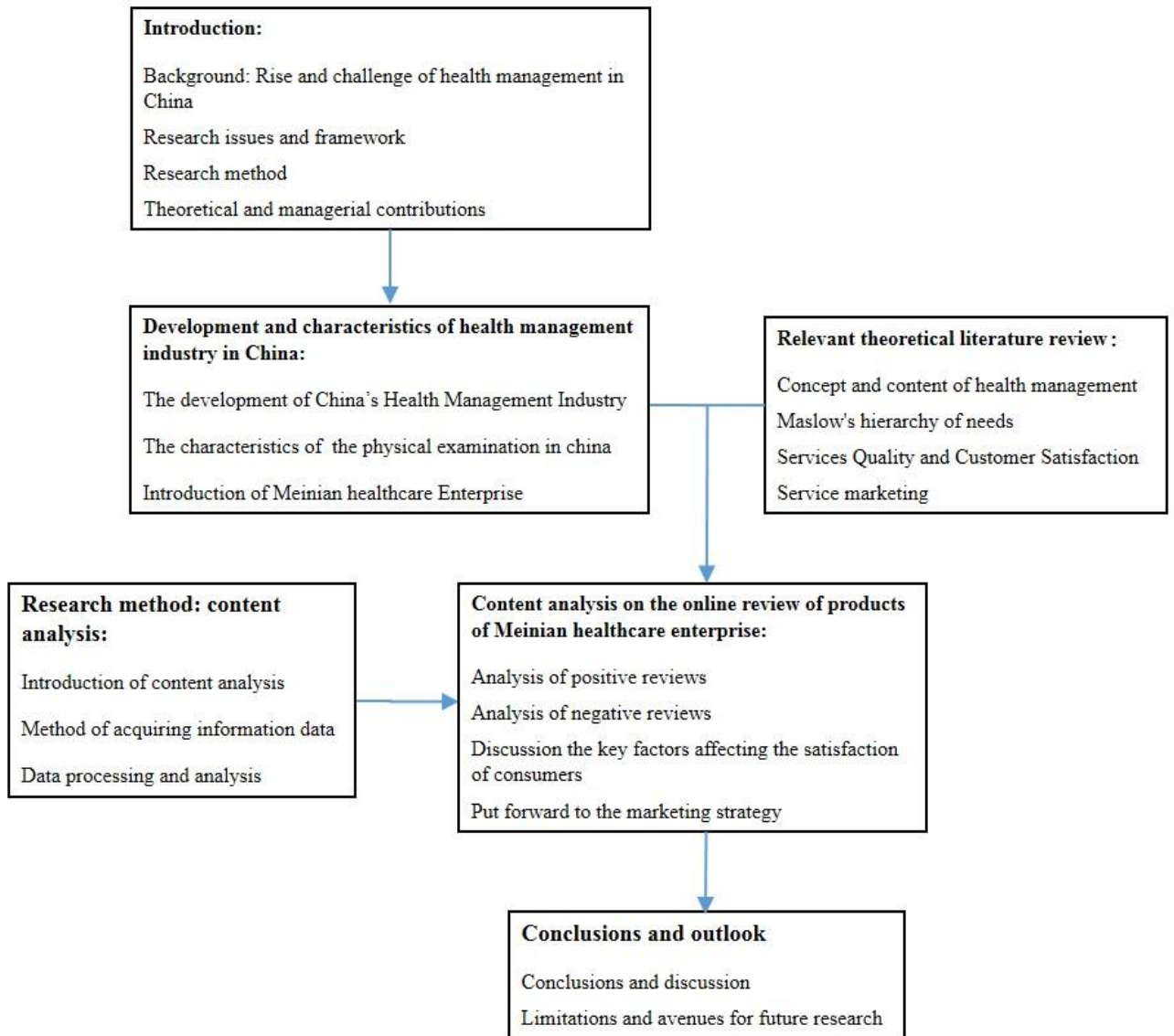
### **1.3 Research method**

This research conducts research on consumer experience and satisfaction of health services of China's private health management companies. The main research methods are literature research method and content analysis method.

The development and characteristics of the industry discussed in Chapter 2 and the related theoretical review presented in Chapter 3 both apply literature surveys methods. This article first consults a large number of journals, books, and websites, and collects literature on health management services, customer perceived value, and customer experience and satisfaction in domestic and foreign databases. A large number of literature surveys have laid a theoretical foundation for the study of this article, which also determines the main content, key points and difficulties of this study.

The research on the key factors that influence consumer satisfaction discussed in Chapter 5 is based on the content analysis method, on the topological framework of the standardized verification of the text content analysis proposed by Krippendorff (2004). The content analysis introduced in Chapter 4 is implemented through the Chinese COST-CM software in this chapter. The qualitative and quantitative analysis of the online reviews of the physical examination service is conducted by this means, and the key factors are discussed with the help of word frequency and semantic network.

Figure 1-3 Framework of the Thesis



## **1.4 Contributions to theory and management**

The subject of this study is consumer experience and satisfaction in health management services. It comprehensively sorts out the development of the industry, and discusses the experience of consumers and the main factors affecting their satisfaction in depth. The main contributions to theory and management are as follows:

1. This article systematically introduces the development of China's health management service industry. Then it compares the different characteristics of private and public companies through SWOT analysis. This part of the study helps to supplement the literature content in the field of Chinese health management, expand the relevant knowledge areas, and provide useful reference for future research.

2. By analyzing online reviews of physical examination services, this article introduces content analysis into the analysis of consumer experience and satisfaction. At present, although the content analysis method of online reviews has been widely adopted in experience analysis, few are applied in the related field of health management services in China. Therefore, this article can help expand the scope of application of this method.

3. Researches on consumer satisfaction focus more on public hospitals, and less on private ones. This research analyzes the empirical case of Meinian Onehealth, China's largest private chain group of health check-up and service, conducting study on the consumer experience and satisfaction which has practical value and reference significance for the management of the company.

4. Based on the previous literature, this study proposes a research framework for consumer experience and satisfaction in private health management companies. In the analysis of key factors affecting customer satisfaction in their physical examination service experience, a classification analysis is conducted; based on the analysis results, this research puts forward specific marketing strategies with practical management significance for companies to improve service quality and attract more customers, providing good guidance for the company's strategic choice.

[This page is deliberately left blank.]



## **Chapter 2: Development and Characteristics of Health Management Service Industry in China**

As mentioned in the first chapter, the health management industry, as an industry and subject, first appeared in the United States in the 1960s. Sallis (2010) mentioned that the health care issues of employees in some big American companies are handed over to insurance companies. The insurance companies believe that the employees can create profits if they are not sick. Therefore, the insurance companies began to conduct preventive management for the employees under insurance, forming the earliest health management. Zhang and Zhao (2015) believed that in the early 1990s, the concept of health management began to spread from the United States to other developed countries such as Japan, Germany and Finland. Subsequently, the concept of health management gradually evolves from theory to practice, bringing impact on the formation of social life style and the management philosophy of chronic disease to a certain degree.

In China, the first impression comes along with health management is that it starts very late. The first health management service company was registered in 2001, which was much later than those in developed countries mentioned above (Bai, 2008). However, dating back to the history of health management, it can be found that there are many ideas about health management in many traditional Chinese medicine literatures. The ancient Chinese medical masterpiece Huangdi's Internal Classics puts forward the concept of "Preventive treatment of diseases". The meaning of Preventive treatment of diseases in Chinese medicine refers to the possibility of reducing the occurrence of disease through preventive care; predicting the occurrence, development and transformation of the disease first, then adopting preventive treatment measures, and reducing the possibility or exacerbation of disease or illness (Yuan, 2016). Sun Simiao applied Taoist philosophy to medical and health practice to protect people's physical and mental health, and made important contributions to the development of traditional medical science of health preservation (Peng & Lin, 2009). Bai (2008) once

pointed out that health management is a fundamental measure and practical step to the "difficult and expensive care" issues. It focuses on health education, health promotion and preventive health care, with a focus on disease prevention, especially for sub-health populations with a high risk of chronic disease . Prevention of illness and health management are new types of health service under the premise of the current uneven distribution of medical resources, the tension between doctors and patients, and the existence of multiple factors such as "difficult and expensive medical care" issues.

We can see that the concept of health management has a long history in China. The rise of China's health management service industry has only been more than two decades, but it has developed rapidly. It is of great potential significance to solve the problems of the current medical costs, chronic diseases and ageing population, and to meet the demands for diverse and high-quality health services. The current health management service in China mainly include the physical examination, and the service aimed at preventing diseases, whose target customers are the healthy or sub-healthy groups and patients with various chronic diseases.

## **2.1 The development of China's health management service industry**

### **2.1.1 Development of health management service industry**

From the primary foundation period of new China to the 1970s, with the establishment and promotion of the national farmer professional cooperatives and the people's commune, the medical service has become an inseparable part of the "collectivization". The system of cooperative medical care was commonly established in the community. The private doctors were incorporated and a large group of "barefoot doctors" formed grass-roots health organizations after trained (Wang, 2009). Deng, Zhang, and Han (2017) conducted an investigation on the situation of those years and found that these barefoot doctors had no fixed salaries. Many of them walked barefoot and ploughed in the farmland, and that's where the name "barefoot doctor" came from. During this period, the medical coverage is very low and the medical expense is not high.

In the 1970s, the People's Commune was dissolved and the cooperative medical service disappeared gradually. By the end of 1970s, the equipment and medical technology in most hospitals had been unable to meet the increasing needs of Chinese people. In the late 1970s, there were only 1.94 beds and 1 doctor per thousand people, and the new medical equipment were seriously insufficient (Bai, 2007). The health inequality characterized by the disparities between urban and rural areas, in regions and in genders still exists (Zhao & Duan, 2013). As a result of severe shortage of medical equipment, diseases were affordable but not curable. Meanwhile, various chronic diseases, such as cardiovascular and cerebrovascular diseases, malignant tumors and mental diseases began to appear gradually in China, which made medical services situations more complicated. According to Hsiao (1995), recent reforms in the area of health have widened the scope of medical cover to account for over 95% of the population. The surge in the population covered has caused severe strains on the delivery of healthcare in private facilities in China.

In a planned economy, there were not enough impetus for economic development. People's cognitive level and medical needs are limited by the overall economy. In order to improve the situation, China seeks to change, leading to some good results (Babiarz et al., 2015). In 1985, China formally launched the medical system reform (Wang & Xue, 2009). Under the guidance of "giving policy rather than money support", the direct investment of the government was gradually reduced and the medical institutions were becoming market-oriented (Yang, 2007). These policies created a loose market environment, so that medical institutions could provide health management services independently in the future.

Thanks to the Reform and Opening up, China's economy had developed rapidly. However, the growth of economy had not protected people from major or chronic diseases (Liu & Wang, 2005). For a long time, the government had not fully realized the significance of medical care service in economy promotion and social development. The investment of health care industry was not sufficient and had been fluctuating below 3% of GDP. In the late 1990s, it increased to more than 5% of GDP, still below the average level in developing countries though. The personal medical expenses accounted for 60% of the total medical expense, which was almost the highest in the world, and the medical protection and emergency capability was relatively weak (Hou & Yan, 2010). The principle of "disease

prevention must come first” was not fully implemented in China's medical industry. The whole society did not pay enough attention to the national fitness education. Therefore, the national fitness activities were not popularized and were in lack of scientific guidance. Besides, the national physical health monitoring system was not sound, and there were no rational and effective instructions on nutrition structure (Hou & Yan, 2010).

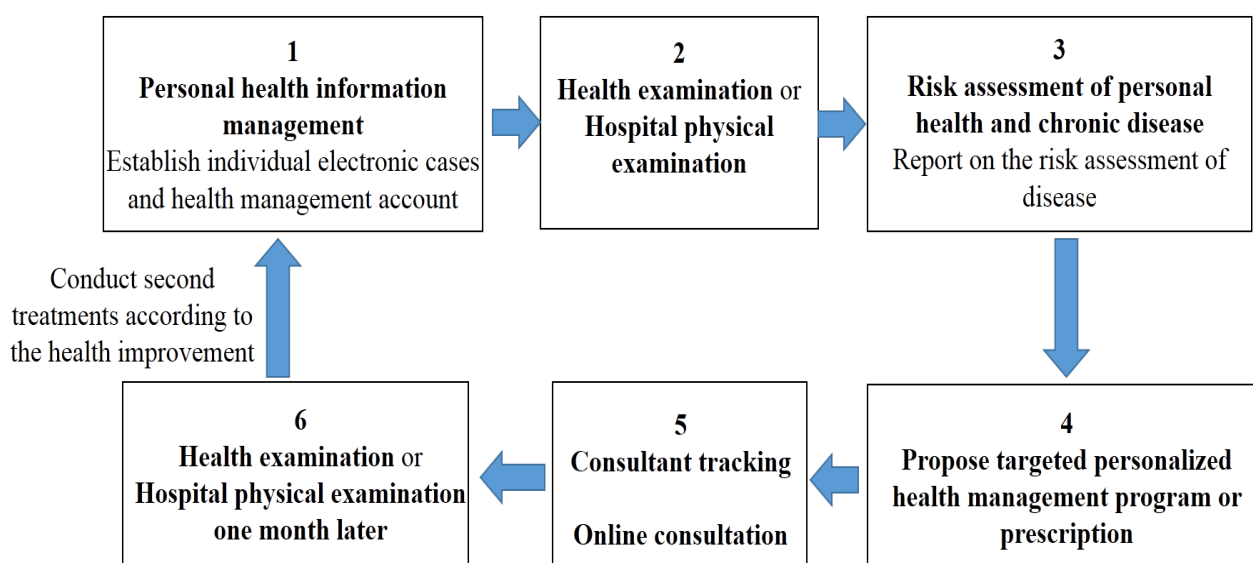
The infectious disease “SARS” plays a important role in the development of health management service industry in China. There are two reasons from a deep point of view. On November 16, 2002, the first case of SARS was found in Foshan, Guangdong. On August 16, 2003, the Ministry of Health announced that there was no SARS diagnosed case all over the country. During this period, 5327 SARS cases were found throughout the country and 349 patients were died of it (Gong, 2008). SARS is a highly contagious infectious disease, which is mainly transmitted through close contact, droplet and feces. In the anti-SARS period, the government put forward some preventive measures such as "frequent ventilation, frequent hand washing, frequent face washing and frequent disinfection." In the cities where SARS was more popular, people washed their hands before eating at home, ventilate room frequently, sterilized regularly, and wore masks in the outdoors (Wang & Meng, 2003). SARS changed people's habits. During SARS, people actively consulted health issues through television, telephone and Internet.

The health management service that has been existed in China for two decades, and its practical application appeared before its theoretical research. The first physical examination center in China was established in 2001 and had undergone five years of difficult and important development in business. After the "SARS", the demand for physical examination service was increasing year by year. With the participation of private institutions and the investment of social capital, the market of physical examination service industry expanded rapidly. People are more willing to spend money on health care, thus promoting the development of this industry .On the other hand, the government did not make policies for the administration of physical examination institutions in time, which lowered the threshold of the industry to a certain extent. As a result, the physical examination institutions began to grow explosively (Chen, 2012). The SARS crisis in 2003 and the awakening of people's

awareness of health management effectively promoted the development of the health management service industry in China .

In China, the health management service industry was born in the 1990s and has been developing rapidly since then. due to the difference between the medical systems, economic environment, and cultural concepts, the health management in China has distinct features compared with that in the United States (Liu & Wang, 2016). Health management is a cycle of monitoring health risk factors (discovery of health problems)→evaluating (identifying health problems)→intervening (solutions to health problems)→re-monitoring→re-evaluating →re-intervening, in which intervening (solution to health problems) is the core (Chen et al ,2006).The main contents of health management service is to establish specific health records, assess the personal health situation based on the results of physical examination, and then propose targeted personalized health management program or prescription as shown in Figure 2-1. Additionally, there will be one-on-one guidance and follow-up counseling services for specific personnel health situation, which enables customers to get the comprehensive health maintenance service and to prevent disease from the aspects of society, psychology, environment, nutrition, sports, etc. Through the overall management of health-related factors and the mobilization of personal initiative, health management can effectively make the best of the limited resources to achieve the maximum health benefit (Bai, 2007).

Figure 2-1 The main contents of Health Management Service



The performance of a country's health sector is critical for the well-being of its citizens (Arunanondchai & Fink, 2005). In recent years, in order to promote the development of health management service industry, the Chinese government has formulated many policies related to health management service industry which can be shown in table 2-1. In order to meet the needs of talents for the development of health services, the Ministry of labor and social security listed "health care manager" as a new occupation and issued the *National Standard for Health Management* (Ministry of labor and social security of PRC, 2007). In 2012, fifteen departments including the Ministry of Health had jointly formulated the *Chinese Chronic Disease Prevention and Control Plan* in government documents, and regarded health management as an important part of preventing and controlling chronic diseases. In order to meet the growing demand for health services of the masses, the State Council issued *Some Opinions of the State Council on Promoting the Development of Health Service Industry* in 2013, and listed the health management and health improvement as one of the four core contents in the health service industry. The State Council issued the *Suggestions on Speeding up the Development of Commercial Health Insurance* and *Suggestions on Further Strengthening Patriotic Health Work In the New Era* in 2014, and *Development Plan of Health Care of Traditional Chinese Medicine* (Dai, 2017) in 2015. All regulations emphasize the health management, which provides policy support for the development of health management in China.

Table 2-1 Policies to Promote the Development of Health Management in China

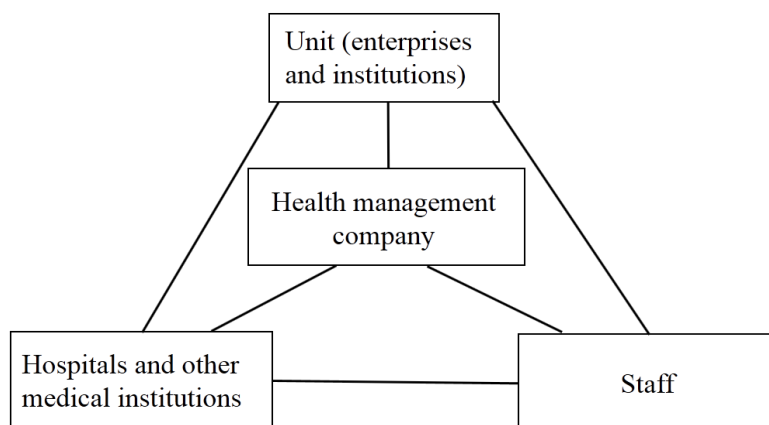
Time	Policy and Supervision
2005	Professional Standards for National Health Managers
2012	Chinese Chronic Disease Prevention and Control Plan
2013	Opinions of the State Council on Promoting the Development of Health Service Industry
2014	Opinions on Speeding up the Development of Commercial Health Insurance; Suggestions on Further Strengthening Patriotic Health Work in the New Era.
2015	Development Plan of Traditional Chinese Medicine Health Service

Source: National Health and Family Planning Commission of the People's Republic of China (2015a)

Community health service is an important part for the construction of China's medical and health system (Yang & Wang, 2010). Health management service also plays a very important role in community health service. Liu and Mu (2015) called the Chinese community health service as "gate keeper" of health care recipients, and thought it also provided convenience to implement personalized health education and control health risk factors. Health education is of great significance for individuals to prevent and control chronic diseases. Through the five-year follow-up of 660 patients with hypertension in the community, and the comprehensive health management intervention measures, including individualized follow-up, health education, and changing the bad habits, we find that the comprehensive health management intervention measures based on community can effectively control hypertension, reduce the incidence of complications and improve the life quality of hypertensive patients (Yao & Xu, 2012). The individualized health management for patients with hypertension and other chronic diseases can not only improve the rate of successful treatment, reduce the incidence of complications and mortality (zhao et al, 2011), but also significantly reduce the cost of medication and hospitalization, thus reducing the economic burden of the patients and the society.

At present, China's health management service is still in its infancy, and its industrial development foundation is weak. It is still relatively simple in terms of health management service content, service human resources , service models, service specialisation, and service management. Health management and insurance industry have not integrated completely, Health management consumption is mainly based on personal payment and the welfare of enterprises and institutions. The efficiency and utilisation of medical insurance are inadequate and under-developed (Yang, Long, & Long, 2017). The combination of health management and health insurance is an inevitable requirement of market customer demand and health insurance business rules. Chinese health management service enterprises, of which the direct customers are individuals and companies, are generally not employed by health insurance companies, as shown in Figure 2-2 (Liu & Wang, 2016).

Figure 2-2 Trinity Model



Source: Liu and Wang (2016)

From the point of view of Chen, Chen, and Ji (2008), the enterprise is an important entity where health management service can be applied. Health management services enable employees to have higher attendance and better job performance, and bring lower employee run-off rate and other benefits. According to the IHPM algorithm which puts forward a penetrating view," health is closely related to productivity. Health management affects employees' performance by managing employees' health. It not only evaluates the impact of health interventions on employees' health, but also assesses the impact of health interventions on enterprise's productivity". The health of employees plays an increasingly important role in the development of enterprises (Wang, 2013). In China, a number of large enterprises pay more and more attention to the view that the disease prevention is more important than disease treatment. Hou and Yan (2010) summarized the main applications of health management services in enterprises from the three aspects of health evaluation, medical cost control and human resource analysis. It aims to improve production efficiency and economic efficiency. With the continuous development of the health management industry, it will become the main development trend to carry out regular physical examination, intervene the health of employees after examination, and organize health management projects in the workplace according to the characteristics of the enterprise, so as to apply the health management in enterprises (Wang et al., 2013).



### **2.1.2 The status quo of China's private healthcare delivery**

According to ownership, medical institutions can be divided into two categories: publicly-owned and non-public hospitals (Feng & Zhang, 2009). Publicly-owned hospitals are public hospitals, including state-owned hospitals and collective hospitals; non-public-owned hospitals are commonly known as private hospitals, including affiliated hospitals and private hospitals. From the general trend of hospital system reform in the world, the government mainly reformed public hospitals in operation and management system, emphasizing the autonomy of hospitals, the specialization of management and the public welfare nature of hospitals (Shi, lin & Feng,2013). In order to solve the problem of medical service market failure and improve the fairness of medical services, most countries have established public hospitals. By the 1960s, public hospitals had experienced crisis in service efficiency and quality. The "new public management" advocates the introduction of market mechanisms into the operation of public service organizations and the implementation of self-government and corporatization reforms (Ma, 2012).

At present, public hospitals in our country occupy a dominant position in the medical service market. Private medical institutions have long been deprived of the soil for survival and development, which have started late and have been slow to develop. They are also subject to many constraints on government support, medical insurance setting, personnel system and other supporting measures (Wang, 2009).With the increase of people's income and consumption levels, growing health awareness, and intensified aging problems, the existing ownership structure will lead to financial crisis, poor performance of the medical system, and poor responsiveness (Feng & Zhang, 2009). In order to break the single ownership structure and service model in the medical and health field and encourage and guide social capital to develop medical and health services, since 2000, China has gradually promoted the development of private hospitals, reflecting the Sarvas dynamics of the pressure on reality, economy, ideology, business, and populism to promote the privatization movement. (Sa, 2002) In 2000, the former Ministry of Health promulgated and implemented the "Implementation Opinions on Classified Management of Urban Medical Institutions" and began to implement profitable and non-profitable classification management for medical

institutions. After the new medical reform, the government proposed the principles of "adhering to non-profit medical institutions as the main body, profit-making medical institutions as supplements, public medical institutions as the leading agency, and non-public medical institutions for the common development of medical treatment", and the status of non-public medical institutions, that is, private hospitals, has been confirmed. In 2010, following the "Opinions on Further Encouraging and Guiding Social Capital to Organize Medical Institutions", the "Circular on Issues Concerning the Application of Market Regulation Prices to Non-public Medical Institutions" released on April 9, 2014, announced the price of non-public medical institutions and medical insurance payment policies, the same as public medical institutions. Prudent privatization can effectively relieve the government's financial burden, promoting the competition of medical institutions, improving the performance of medical services, and enabling the public to have more choices of public services (Gu & Luo, 2015).

Compared with public hospitals, China's private medical institutions still lack the soil for survival and development, which are also subject to many constraints in government support, medical insurance setting, and personnel systems. The number of private hospitals, beds, health workers, and the income and expenditure of medical staff all suffer from a slow increase, and the medical services are not good enough so that people still lack trust in private hospitals. With the improvement of people's living standards and health awareness, the demand for medical services is increasingly multi-level and diversified, and the model fully dominated by public hospitals is not sustainable. On the one hand, government funds are limited and it is difficult to fully meet the public's demand for medical services. On the other hand, the soft constraints in budget imposed by the overwhelming dominance of public hospitals will make medical institutions lack incentives to reduce costs and improve the management system. Problems such as poor performance of the input and output and poor responsiveness of the medical system will occur (Gu & Luo, 2015). The private hospitals have broken the single ownership structure and service model in this field, playing an irreplaceable role in solving people's medical problems and satisfying the residents' diversified medical and health care needs, which is an important component of China's medical and health service system. Therefore, China should progressively promote the

formation of a diversified medical service pattern for medical services, transiting from a public-dominated mode to a public-led and private-supplemented model. After the private hospitals have developed steadily, it will be transiting to public-private competitive mode (Feng & Zhang, 2009).

## **2.2 Development of health management services industry in the United**

### **States**

The United States is the birthplace of the health management service industry. After decades of development in the United States, the concept of health management has been widely spread and accepted by American people, of whom most can correctly understand the concept of health management. Medical research is well developed in the United States. With the continuous development of health management in practice and research, the latest epidemiology, management science and behavioral medicine provide a theoretical and practical basis for health management, so that the health management becomes a new industry in the United States. The health service industry in the United States is developed under the general guidance of the health management. The health management has led the whole country to achieve the dual goal of "improving the quality of national health quality and reducing the social medical expenditure", so as to promote the rapid development of the whole domestic health industry (Liu & Li, 2011).

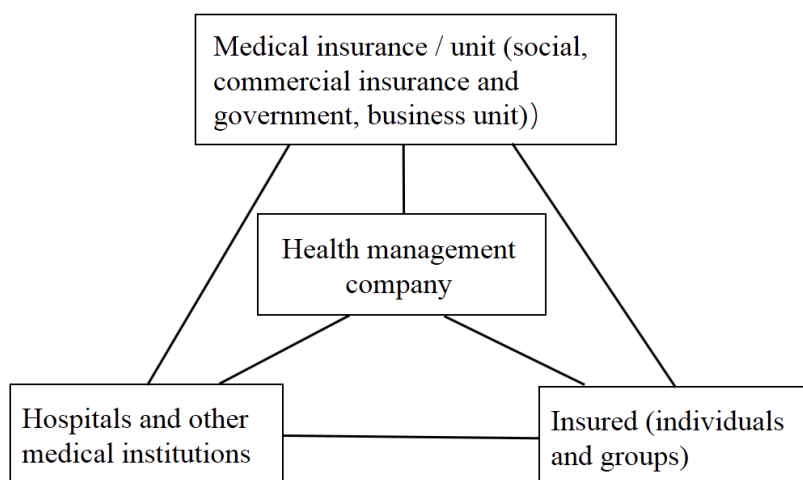
Currently, the health service industry is the first major industry of the United States in which the health management service is first applied in the insurance industry and the insurance companies become the main payers of personal non medical care expenditure for insurance customers. Frankle and Shroder points out that the health management agency is entrusted by the insurance company to provide health management guidance to the insured, so as to reduce the medical expenses of the insurance company. Currently, the health management institutions have taken up most market share of health insurance industry. Among every ten people, seven of them enjoy health management services in the United States These health management institutions provide comprehensive health management

services through medical management plans and encourage members to use the internal medical service resources in the system (Liu & Wang, 2016).

In 1973, the US government carried out a series of reforms in medical insurance management institutions, motivating patients to cooperate with medical insurance institutions and medical institutions, establishing managed medical care characterized by cost control, and realizing medical service supply and payment through health management organizations. Integration of functions. In the "three-in-one" model shown in Figure 2-3, the insurance company can reduce the medical expenses through effective health management service. The profit of health management institutions comes from the reduced medical expenses. The insured has improved health conditions. Through the most economical and optimal health improvement scheme, the "three-in-one" model promotes the rapid development of the health management industry in the United States, and improves the health condition of American people.

The American health management service industry adopts the model of "three-in-one" and "interests of three parties" in which the health management services institutions, hospitals and insurance companies jointly participate. Hospitals and medical practice are deeply involved in the health management service, which is an inseparable part of health management. Therefore, the government can adjust the medical expenses at the macro level in the development of health management service industry. In the long run, this model can not only improve the overall health condition of the citizens, but also promote the development of medical service, so as to realize the goal of health development finally. In terms of the medical information privacy protection, in order to establish a legislative framework for privacy protection of personal medical information, the American government issued the *Rules of Personal Health Information Privacy* and *Regulations on the Safety of Electronic Medical Information*, so as to better protect the medical information of patients and prevent them from being abused by others (Liu & Wang, 2016).

Figure 2-3 The "Three-in-one" Model



Source: Liu and Wang (2016)

## 2.3 The characteristics of the physical examination service in China

### 2.3.1 The current development of physical examination service in China

The physical examination, as the approach of disease prevention, has an important mission in the national preventive medicine and the reform of public health and health care. Physical examination is considered as a vital part of illness prevention to ensure a long and healthy life, specifically, the physical check-up is widely used to monitor the growth and nutritional status of individuals, detect abnormalities and health problems. From the perspective of health management, health examination is one important step, through which can healthcare institutions effectively collect relevant health information from customers. Specifically, physical examination refers to a thorough examination of the body when no apparent disease is present, for a good understanding of the body and screening diseases. The main purpose of the examination is to find out if there is a potential disease, so that preventive and curative measures can be taken in time. At the same time, studies have shown that one-third of human diseases are reported by information feedback in physical examinations, which guides treatment and improves curative effect (Gong, 2016). Health checkups are the main means by which people discover potential diseases and seek for health care. Participating customers would be more likely to gain a more complete grasp of their health

status through specialized health checkup services (Huang, 2012). At the same time, it can also relieve the pressure on the healthcare system caused by aging population.

In China, most medical institutions provide related health management services, among which the physical examination is the most important item. According to the statistics, the number of China's health management institutions (mainly physical examination centers) have been increasing at an annual rate of 25% since 2000 (Bai, 2006). According to the national sampling survey in 2013, it was found that tens of thousands of physical examination institutions had been established (Bai, 2015). In terms of the overall development scale of physical examination market, the market share of physical examination service industry in China was about 94 billion yuan in 2015, increasing by about 306.9% compared with the market share in 2009 which accounts for 23.1 billion yuan. The compound growth rate for the 6 years was 26.4%. In terms of the number of people who receive physical examination, about 380 million people attended the physical examination in 2015 (Chinese industrial information website, 2017). The scale of health care industry and the number of physical examination recipients have increased year by year, which brings huge economic and social benefits.

The physical examination market in China started relatively late, and it had undergone the development process from compulsory physical examination organized by units to personal active physical examination. Before 2000, the physical examination service industry in China was developing in relatively closed circles, mainly including compulsory physical examination items for the purpose of enrollment, employment, and military recruitment, etc. The items of physical examination services are mainly customized according to the needs of institutions and enterprises, so consumers usually have no selection. With the rapid development of China's economy, the physical examination service market opens up gradually. Meanwhile, more enterprises have realized the importance of the health of employees, so they begin to organize regular physical examination for employees. Physical examination service gradually becomes a basic welfare item that the big enterprises and institutions must carry out every year. At present, public in China pays more attention to maintain health. Rather than visiting the hospitals when they are sick, Chinese people nowadays are becoming more proactive in health management (Huo, 2010). Meanwhile, it is

increasingly recognized that having regular physical health examination is vital to keep overall wellness because it can prevent serious conditions as well as monitor vitals.

With social progress and development, the environment of the healthcare services market has undergone great changes. On November 26, 2010, the office of the State Council forwarded the *Notice on Further Encouraging and Guiding Social Capital to Hold Medical Institutions*, which broadened the scope of access of social capital and encouraged the diversification of medical practice. No matter what type of health care service institutions they are, they have their own unique strengths and weaknesses (Huang, 2012). Since the first private physical examination center in China was established in 1997, the physical examination service in China has become mature so far, and the private physical examination centers of various big brands have been remarkably developed. After primitive accumulation of capital, these private physical examination centers put more efforts on medical equipment, services and ideas, etc. They provide comfortable and convenient health management services for consumers, which include not only regular physical examination items but also disease screening, gene detection, disease assessment, and health management services for chronic disease. Therefore, they are gradually favored by consumers. The surge in the number of health checkup agencies has provided an additional layer of protection for the health of the people, but it has also gradually highlighted some problems that need to be resolved, such as inadequate practice, unreasonable physical examination items and charges, and uneven quality of service among employees, which all lead to unstable physical examination. Promoting the scientific, qualified, max-efficient quality management of health checkups (wang et al., 2011) has become an important topic for managers currently.

With the rapid development of private physical examination institutions, public hospitals also set up their own physical examination centers. The physical examination center not only brings second financial resource to public hospitals, but also promotes the rapid development of traditional businesses in hospitals. Compared with private medical institutions, public hospitals have many inherent advantages, of which the most important advantage is the credibility. Under the same conditions, the physical examination center in public hospital is the first choice for most individuals and enterprises, and even some units only admit the physical examination reports issued by public hospitals. Supported by the government, the

public hospitals have abundant financial resources, so they can introduce the latest advanced equipment in time. Besides, the clinic doctors can serve as the physical examination staff in public hospitals, so the public hospitals have medical staff with high professional quality (Chen, 2012). Taking the physical examination center in a public hospital in Changsha, Hunan, as an example (Wang, 2015), the center has a professional physical examination area of nearly 10000 square meters that can hold more than 800 people at the same time every day. The center has nearly 300 senior health management experts, including 48 experts with senior professional titles, 121 experts with intermediate professional titles and 16 graduates, thus forming a reasonable faculty team. There are also some obvious defects for the physical examination center in public hospitals, such as the excessive number of physical examination recipients, inefficient physical examination process, and high rate of cross infection, etc. (Zhou, 2016).

### **2.3.2 Consumers and check-up packages**

To further standardize and promote the healthy and orderly development of the health examination industry, the Ministry of Health has successively promulgated the "Regulations on the Administration of Health Checkup Organizations" and the "Basic Items List of Health Checkups," and the "Contents of Health Checkup Packages", which are currently the main guidance documents for conducting physical examination and health management in China (Wu et al., 2009). Basic physical examinations mainly include questionnaires for healthcare consultations, medical examinations, surgical examinations, general examinations, and ophthalmic examinations. Non-communicable diseases screening projects mainly include cardiovascular diseases, diabetes and other diseases that have a major impact on human health. In today's society, malignant tumors that seriously threaten human health mainly include breast cancer, cervical cancer, lung cancer, prostate cancer, and colorectal cancer. Physical examination items are mainly divided into common cancer risk factors and single risk factors. Laboratory tests include routine laboratory tests and laboratory biochemical tests. Routine laboratory tests include routine blood tests, routine urine tests and routine stool tests, and laboratory biochemical tests include liver function, renal function, blood lipids, and blood



glucose levels. Image inspection includes B-ultrasound, X-ray inspection and other items (Zhao et al., 2013).

The physical examination can effectively screen the disease, including not only common abnormal diseases such as hyperplasia of the breast, hypertension, and fatty liver, but also rare malignant tumors such as breast cancer and lung cancer (Hu, 2011). Through the early detection of chronic diseases such as malignant tumors, timely diagnosis and treatment of the disease, or the delay of the development of sexually transmitted diseases are realized. Health monitoring is mainly targeted at chronic non-communicable diseases, which is a national strategy to prevent and control chronic non-communicable diseases in the entire population (Qin, 2011).

The consumers in the medical examination market are the special consumer groups in the medical industry, who are all healthy or sub-healthy people. Their needs for examinations are related to not only their personal health concepts, ability to pay, and accessibility of products, but also their industry background and individual financial capabilities. According to consumer characteristics, the consumer groups in this industry are divided into the following categories: high-end group clients, general group clients, high-end individual clients, general individual clients, and special-items-required clients (Wang et al., 2011). At present, major hospitals and private physical examination centers prefer offering examination packages, which include package A, B, C, D, etc. (or in other words basic type, luxury type, etc.), and the items included from A to D are increasing. For example, the package B adds more physical examination items based on the package B while C based on B; and the cost of these packages also range from a few hundred dollars to a few thousand dollars (Ying, 2013). Due to its business potentials, physical examination packages have become an important part of services provided by healthcare institutions.

According to Wang et al. (2011)'s analysis of the packages of some medical examination agencies in Guangzhou in 2011, the average price of general physical packages was 654 yuan, and the highest was 918 yuan; the average price of the high-end medical check-up package is 2264 yuan, and the lowest price is 1 468 yuan; and the average price of the special medical check-up package is 161 yuan. If the point of 1,000 yuan are chosen to be the dividing point of the ordinary and the high-end medical examination, the prices of the latter are all higher

than 1000 yuan. Therefore, the point of 1,000 yuan is used as an indicator for dividing ordinary and high-end medical examinations. Therefore, definitions are as follows: high-end group customers refer to units with a per capita physical examination expenditure of more than 1,000 yuan, and ordinary group customers refer to units with a per capita physical examination expenditure of less than 1,000 yuan; high-end individual customers refer to customers whose per capita physical examination expenditure exceeds 1,000 yuan, and ordinary individual customers refer to customers whose per capita physical examination expenditure is less than 1,000 yuan; special-item-required clients refer to customers who participate in physical examination according to requirements for purposes such as recruitment, admission, military participation, and certification.

Ying (2013) analyzed the basic medical examination packages in 2011 of 50 Grade 3 A hospitals and found 21 diseases with a high rate of detection, as shown in Table 2-2, and physical examination items in the packages, as shown in Table 2-3.

### **2.3.3 SWOT analysis of private physical examination center**

The market of health examination in China is mainly shared by public hospitals, private hospitals, private physical examination centers. In the early stage of development, a large-scale pattern had not been formed in the physical examination industry. Many private physical examination institutions had no enough funds to introduce the most advanced equipment and attract excellent medical professionals. With the development of the medical center in public hospitals, the gradual establishment of the operation mechanism of “the survival of the fittest in the market” and the access standards for "physical examination institutions", the public hospitals have taken a dominant position in the physical examination service market through the comprehensive integration of the market (Chen, 2012).

Table 2-2 Diseases with A High Rate of Detection in Physical Examination in China

Items	Female		Male	
	Number of detected	Detection rate (%)	Number of detected	Detection rate (%)
Hypertension	18642	35.00	27431	51.50
Thyroid nodule	5330	39.30	5258	46.80
Hyperlipidemia	28717	42.70	21290	37.20
ECG abnormality	7206	36.30	4158	38.90
Retinal arteriosclerosis	929	22.10	1948	51.30
Hepatic/renal cysts	569	27.50	1287	42.90
Hemorrhoids	3938	43.70	1301	23.10
Urinary abnormality	516	41.40	181	16.70
Super body weight/obesity	13428	22.50	21621	33.20
Helicobacter pylori positive	975	18.30	1926	28.40
abnormal liver function	145	22.20	200	21.60
Hyperglycemia	14650	17.10	15598	22.70
Chronic pharyngitis	2703	19.80	1988	19.20
High uric acid	175	17.30	212	19.50
Fatty liver	1147	16.70	1574	19.80
Blood abnormalities	1102	19.40	686	14.60
Cholelithiasis	3061	13.30	3522	11.00
Abnormal renal function	91	9.60	151	14.60
Elevated tumor marker	266	2.70	1838	17.80
Gallbladder polyps	398	7.10	512	8.50
Coronary heart disease	46	4.20	56	3.20

Source: Ying (2011)

Table 2-3 Physical Examination Items in the Packages in china

Physical examination items	Proportion (%)
General examination: (Internal medicine, surgery, ophthalmology, ENT, blood pressure)	100.00
Liver function	100.00
Blood sugar	100.00
Two items of blood lipid	100.00
Routine blood test	100.00
routine urine test	100.00
DR Chest Film	100.00
Color B-ultrasound (liver, bile, spleen and double kidney)	94.00
Uric acid	92.00
Electrocardiogram	92.00
Tumor index	46.00
Breath test	42.00
Thyroid B Ultra	24.00
PSA	8.00
Stool routine examination	8.00
Hepatitis B three qualitative	6.00
Milk through	4.00
Carotid color Doppler	4.00
Cervical spine lateral X-ray	2.00

Source: Ying (2011)

### 2.3.3.1 Opportunities

(1) The overall shortage of medical resources, the government intends to solve the problem of insufficient health resources.

China is building a moderately prosperous society and a harmonious society in an all-round way. It is a consensus that "building a well-to-do society and health comes first."

Without a marked improvement in the people's health status, we will never be able to talk about a truly well-to-do society. Relative to the rapid economic development in China and the constant improvement of people's health demands, the current problem of insufficient medical and health resources in China has become quite serious (Yang, 2006). How to increase the total amount of medical and health resources is one of the important tasks before the Chinese government. To this end, the State Council and the Ministry of Health have promulgated a number of policies and documents, clearly proposed to actively encourage social organizations and individuals to participate in medical services, allowing investors who invest social funds into the medical profession to obtain a reasonable return (Tian, 2009). The private health management enterprise is an important part of the medical and health resources of the whole society. The introduction of relevant policies will certainly promote the expansion of its scale.

(2) China is gradually entering the aging society, the per capita life expectancy continues to grow, and the economic burden from disease continues to increase.

The aging population is an important public health problem facing the world. At present, the population over 60 years old has accounted for more than 15.5% of the total population, and forecasts estimate that about one-third of China's population will be over 60 years by 2050 (Shi & Chen, 2017). China has already entered the aging society in advance. According to Zhai, Chen, and Li (2016), China enters aging society with low per capita income, poor social security system and weak health care system. Elderly people are high-risk groups. With the increase of per capita life expectancy and the decline of all kinds of physiological functions of the elderly, the prevalence rate is increasing, especially the increase of chronic diseases, which makes the disease burden increasing. The demand for medical consumption is increasing.

(3) The structure of resident consumption changes, the proportion of health care spending increase.

Zhao, Zhou, and Niu (2013) mentioned that with the rapid development of our national economy, the level of per capita income has also been on the rise. According to the evaluation of purchasing power by the World Bank, the consumption structure will change significantly after the per capita GDP reaches \$ 1,000. When the per capita GDP is under \$1,000, food and

clothing account for a large proportion of the expenditure on consumption. When the per capita GDP is in the range between \$1,000 and \$4,000, the consumption of food and clothing will decline, while the consumption of medical, education, transportation, etc. will increase in the proportion of consumer spending. People are more willing to spend money to improve their health and living standards.

#### (4) Changes in the medical model

The core of the medical model is the concept of medicine and health. The current medical model is transforming from the biomedical model to the bio-psycho-social medical model (Li, Zhang, & Liu, 2017). There are two main characteristics of this transitional phase, the first one is the change of the spectrum of diseases and the spectrum of death, and the major diseases that affect the health of the population have been transformed from infectious diseases to chronic non-communicable diseases, such as cancer, cerebrovascular disease, respiratory disease and heart disease. Another one characteristic is the change in the concept of health. Nowadays people generally accept that health means a perfect state of body, mind and society, not just without disease or weakness. The change of medical model provides a good opportunity for the development of private and public health management enterprise (Yang, 2006).

#### **2.3.3.2 Threats**

At present, the services provided by domestic physical examination center are still mainly physical examination. The center lacks health risk assessment and continuous intervention service system. Most health management institutions have not yet integrated service items into a complete value chain. Most physical examination centers have not established contractual relationship with enterprises or institutions or communities to provide health management services (Chen, Meng, & Shi, 2014).

The health awareness of most residents in China are still limited in the treatment of disease and health care. People focus on whether they are sick or not, and do not pay enough attention to early prevention and control of disease (Pan et al., 2013). In recent years, the physical examination service in the physical examination center has been developing rapidly with different levels of service quality. The routine examination equipment and diagnosis and

treatment methods often fail to identify the sub- health condition of people. At the same time, these centers do not pay enough attention to factors such as the psychology, family, job and working environment of the physical examination recipients (Li & Ren, 2016)

In the current medical system in China, the state-owned public hospitals occupy the vast majority of market shares and have an absolute advantage. Most of these state-owned hospitals have decades or even centuries of development history. They have the tremendous support of the state finance, advanced medical equipment and medical technologies, excellent medical professionals, unparalleled advantages and occupy the vast majority of the medical market in China. They are the largest providers of healthcare services and the strongest competitors of private health management enterprises. Public hospitals can take advantage of the above advantages to carry out health management related services, and at this stage, the recognition level of public hospitals is higher than that of private health management enterprises, people are used to going to the hospital to see a doctor or to seek health guidance.

#### **2.3.3.3 Strengths**

Private health management enterprises are mostly established and operated according to the modern enterprise system. In addition, private health management enterprises face the crisis of survival under the competitive pressure of state-owned hospitals (Yang, 2006). Therefore, private health management enterprises have a scientific modern enterprise management and have a strong market concept, which is easier to grasp the market dynamics than the public hospitals.

#### **2.3.3.4 Weakness**

Health management service industry is still a new emerging industry in China, and it is relatively in shortage of professional talents. In the initial stage when physical examination centers were established, due to the shortage of medical staff, many physical examination centers hired retirees who had not been systematically trained in terms of general medicare and health management knowledge, or medical personnel with insufficient experience or without experience. These personnel were not yet able to meet the standard of the real health management service and their service quality is difficult to be guaranteed (Li & Ren, 2016).

In recent years, with the publicity of "health management" by the media, the term "health management" have been familiar to the public. Some health products sales companies, beauty salons, or other institutions that do not have any relationship with health management promote themselves in the name of "health management", which affects people's trust in health management to a certain extent. The difference between public opinion and reality will affect the credibility and reputation of health management institutions, thus affecting the stable and normal development of health management service industry (Chen, Meng, & Shi, 2014).

## **2.4 Introduction of Meinian Onehealth**

### **2.4.1 The main services provided Meinian Onehealth**

Meinian Onehealth, founded in 2004, is a professional health management incorporation whose main business is physical examination, and integrates health consultation, assessment and intervention. It is currently the largest big data platform with personal health information in China. By the end of 2016, Meinian Onehealth has established nearly 300 medical and examination center in more than 30 provinces and 100 core cities, with full-time experts, professional medical and management team of nearly 20000 people, serving approximately 15 million customers every year (Meinian Onehealth, Inc, 2017). Based on professional and high-quality physical examination, the company carries out services in the fields of professional prevention, health protection, medical butler service leading by big data of physical examination, and provides the first class health management service for both enterprise clients and individuals. The company's obvious advantages lie in its scale, talents, management, service, customer resources, brand and so forth. It is an excellent leading enterprise in the field of physical examination (Meinian Onehealth, Inc, 2017).

The company's main services include physical examination (like routine physical examination, early tumor screening and interpretation of physical examination report), risk assessment of disease, medical treatment service (like reservation and escort diagnosis), and health counseling (like health messenger consultation, telephone consultation, expert



face-to-face consultation, and health lecture and salon). The revenues of Meinian Onehealth in 2015 and 2016 are listed in

Table2-4. As can be seen from this table, most revenues comes from physical examination, indicating its dominant role in business of health manage in China. And there has been a notable rise of revenue for most services provided by this incorporation, like physical examination (increasing 48.75%), total service (increasing 46.65%) (Meinian Onehealth, Inc, 2017).

Table 2-4 Revenues of Meinian Onehealth in 2015 and 2016

<i>(US \$ million)</i>	Fiscal Year 2015	Fiscal Year 2016	Increase
physical examination	324.1	482.1	48.75 %
Other service	7.1	3.6	-49.30 %
Total	331.2	485.7	46.65 %

Source: Meinian Onehealth, Inc (2017)

### 2.4.2 Management model

The core idea of the corporation management is focusing on prevention, combining prevention and treatment, constructing a fully closed loop of examination, treatment and insurance. On the one hand, the advantages of physical examination as the entrance should be strengthened, product line should be constantly enriched, and connotation and quality should be enriched. On the other hand, the company will entirely and deeply layout the track, which has coordination with the downstream industry chain of physical examination business. Then a strong closed loop of business and ecological layout circle is formed to combine the massive and precise big data in health and health insurance with the Internet finance, and to bind with offline comprehensive health service, creating a truly valuable personal “health bank” for Chinese (Meinian Onehealth, Inc, 2017).

The corporation provides customers with multi-level, comprehensive, accurate and personalized health services by three healthcare corporations including Meinian Onehealth,

Ciming Checkup and MJ Health Care. The continual improvement of the examination connotation and the post-examination service ensure that the unit price level in existing physical examination centers is increased by more than 10% annually. This corporation also enhances product innovation, continually introduces innovative and high-quality examination projects, such as gene testing, capsule endoscopy, screening of two female cancers, and women's physical examination, so as to provide customers with a full range of health management and extended medical service. In terms of resource utilization, the corporation will release general practice, strengthen remote X-ray film reading, and realize remote medical treatment. The existing 300 examination centers are equipped with remote medical rooms, and cooperate with online platforms of diagnosis and treatment including WeDoctor and HaoDF and so on, allowing physicians working in multiple institutions, and rapidly increase the income of examination centers, fully exerting the off-line advantages. All in all, with the innovative health services as the core driving factor, the corporation is dedicated to building a health industry ecosystem based on a large platform of physical examination, and focuses on the layout in some core businesses including medical specialists, chronic disease management, advanced diagnosis, big data, remote medical treatment, health insurance, and etc (Meinian Onehealth, Inc, 2017).

Besides, the corporation has acquired one of the world's three largest high-end medical brand "MJ Examination" so as to expand the market of high-end physical examination, and meet the personalized needs of customers from all aspects with the examination service also provided by Meinian Onehealth, Ciming and MJ. The corporation has established three levels of management system, major positive reports, diagnostic report control, third party evaluation and other quality control systems. In terms of hardware investment, the corporation is increasingly importing testing equipment from SIEMENS and other top international corporations, leaving an impression of "open bidding and transparent procurement" in the industry (Meinian Onehealth, Inc, 2017).

In 2016, Meinian Onehealth widely promoted the sales of innovative products, including a 3650 high-end physical examination package with capsule endoscopy, nuclear magnetic resonance and CT examination, and another one with genetic testing, cancer indicator screening, etc. These products have made fruitful exploration in enhancing the connotation

and increasing the unit price of physical examination. In 2016, the corporation actively launched a large platform in health industry. Through equity participation of listed companies, it focused on the distribution of remote medical treatment, genetic testing, big data business, and constantly extended its industrial chain, becoming the first examination institution to enter the national medical research center. In addition, establishing the medical imaging center with SIEMENS in Germany also indicates that Meinian Onehealth has the ability to cooperate with international brands in the field of medical imaging. Currently, the overall physical examination industry in China enters into the integration development stage, so the brand influence and scale effect are increasingly obvious. As a leading enterprise in health industry, Meinian Healthcare has obvious competitive advantages (Meinian Onehealth, Inc, 2017).

### **2.4.3 Development strategy**

The company is committed to building a health industry ecosystem based on its physical examination service platform. It focuses on specialist medical care, chronic disease management, advanced diagnosis, health big data, telemedicine, and health insurance. The company intends to become one of the most important health industry platforms in China and continues to lead the development of the industry (Meinian Onehealth, Inc, 2017).

The development strategy of Meinian Onehealth from 2016 to 2020 is: firstly, further strengthen the leading advantages in scale, quantity, quality and influence in the field of professional physical examination; secondly, explore the existing channels of physical examination platform and resource value in depth, and carry out value-added services like comprehensive medical services and health management, so that the nationwide channels and high-quality customers of Meinian Onehealth can have a huge coordination value, thirdly, focus on the development of the massive, professional and accurate data accumulated by the physical examination platform, which is of vital importance to the national public health and scientific research, providing a solid foundation for the development of artificial intelligence, intelligent diagnosis and remote medical treatment on the next stage; fourthly, establish an ecological layout of "examination, internet, treatment, and care": redefine the standards of physical examination service, integrate with the traditional Chinese physical

examination, genetic testing and precise evaluation system, develop the Internet service platform with the mobile app “Youjiankang” and “Jijiankang” as the carrier, and the remote medical treatment network based on “Elephant Medical”, combine the chronic disease management, specialist treatment and professional health management and improve the payment security, arrange the medical care industry chain, so as to build the core competitiveness of Meinian Onehealth’s long-term development (Meinian Onehealth, Inc, 2017).

## **2.5 Brief summary**

This chapter mainly introduces the development of health management service industry in China. It is of great potential significance to solve the problems of the current medical costs, chronic diseases and ageing population, and to meet the demands for diverse and high-quality health services. The current health management service in China mainly include the physical examination, and the service aimed at preventing diseases, whose target customers are the healthy or sub-healthy groups and patients with various chronic diseases. The awakening of people's awareness of health management and the formulation of relevant national policies have promoted the rapid development of health management in China.

At present, China's public hospitals and private health management institutions are all carrying out health management businesses, mainly based on physical examinations. The number of private health management service enterprises has also increased year by year, and the type of service has become diversified. This chapter analyzes the strengths and weaknesses of public and private health management service enterprises by SWOT analysis.

[This page is deliberately left blank.]

## **Chapter 3: Relevant Theoretical Literature Review**

In this chapter, the theoretical study about health management is reviewed mainly from the aspects of its concept and content for a better understanding of health management. Then, the theories about of Maslow's hierarchy of needs is introduced, including characteristics and influencing factors of consumers' needs in health management industry, as well as the services quality and customer satisfaction in healthcare industry and the overview of service marketing. These theories can serve as references for latter research of consumer experience and satisfaction in private health management enterprises in China in this thesis.

### **3.1 Relevant literature review on health management**

The topic about health management is becoming more and more popular in the field of scientific research in recent years. Scholars from all over the world have carried out extensive theoretical and practical exploration on the concept of health management and the role of health management in improving health and reducing medical expenditure, and many achievements have been made.

#### **3.1.1 The concept of health management**

The concept of health management has proved to be seemingly clear but actually ambiguous and imprecise in academic field, and it is difficult to understand and define the concept accurately (Hunter & Brown, 2007). Scholars in different perspectives from different countries may give definitions with slight divergence, or emphasize different characteristics of health management in their research. On the whole, the concepts of health management can be divided into four types.

The first type is represented by Fulop from the United States and Su from China, who equated health management with public health services (Bai et al., 2014). In their opinion, health management is mainly the activities of planning, implementing and organizing health

services aimed at improving people's health situation. They emphasized using purposeful, planned and organized management to maintain, strengthen and promote groups' or individuals' health, while making no clear distinction between health management services and medical services or health services.

The second type is represented by Chapman, Green and Brown from the United States. Focusing on health protection, they emphasize the important role of lifestyle change and active prevention in maintaining and promoting health. Hunter and Brown (2007) advocated that healthy lifestyle should be provided to people and passive health care should be transformed into active health management so as to protect and promote human health more effectively. Their concept of health management is distinguished from the passive health maintenance model based on traditional disease treatment.

The third type is mainly represented by scholars from China. From the perspective of preventive medicine, they regard health management as a means of maintaining health. As Chen and Huang (2007) put forward in the book "Health Management Specialist", health management is the whole process of monitoring, analyzing and evaluating the health condition of an individual or a group, providing health advice and guidance, and intervening risk factors in health. This is the most widely used definition in China. Liu, Ma, and Yao (2007) thought health management prevention is the main guiding ideology, combined clinical medicine with preventive medicine, improved the standard of physical examination service, and enriched the connotation of physical examination.

The fourth type is represented by Glied (1999), Zhao (2009) and Huang (2007). In this type, health management is a program under medical and health system. Glied (1999) thought health management is a series of contractual arrangements and management measures used to control medical costs and improve the quality of medical services. Zhao (2009) believed that health management is a strategy to solve the problems of information asymmetry, moral hazard and market failure in the industry. From the perspective of health investment, Huang (2007) regarded health management as a series of services to invest in health.

The scholars above have provided a solid foundation for deepening the understanding of health management. According to the actual situation in China, Chinese Health Management Association proposes an authoritative definition for health management: guided by concept of

modern health, new medical model and preventive treatment of disease by traditional Chinese medical science, health management is the medical process of comprehensive examination, assessment, effective intervention and continuous follow-up service for the health status and risk factors of individuals or groups through modern medicine and modern management theory, technology and methods, so as to maximize health benefits with minimal investment (Chen & Huang, 2007).

### **3.1.2 Main content of health management research**

Health management is a new medical discipline that studies people's health and health factors, as well as health management related theories, methods and techniques. It is a summary of health management medical service practices, and is an important part of health medicine. An important innovation in modern medicine; a relatively independent medical science knowledge system (Bai et al, 2015).

Health management has three basic components, namely, health information collection and health monitoring, health risk assessment and prediction, and health risk factor intervention and management. Health information collection and health monitoring: comprehensively collect health information of clients, using basic methods such as questionnaires, physical examinations, and sometimes interviews. Health Risk Assessment and Prediction: Based on the collected personal health information, the current general health status is assessed to help individuals identify. There are health risk factors (unhealthy lifestyle habits, abnormal physiological indicators or medical examination results, family history of the disease), and predict the risk of future illness or death, ie disease risk prediction. Its main purpose is to help individuals understand health risks, help people correct unhealthy behaviors and habits, provide early warning of disease risks, and manage people in layers. Intervention and management of health risk factors: health consultation and guidance, and systematic intervention and management of health are the most difficult and critical parts of health management. On the basis of the first two parts, in various forms to help individuals take action, correct bad lifestyles and habits, control health risk factors, and achieve the goals of personal health management plans (Wang, 2015).



By experimental observation and analysis of statistics, scholars have done a lot of empirical research on the role of health management in promoting health, diagnosis and prevention of chronic disease(Han, Dai, & Zhao, 2016). Tataranni (2002) concluded that early disease prevention and behavioral management in primary care could alleviate the symptom of type II diabetes or delay its complications. Starfield, Shi, and Macinko (2005) proved that a strong and powerful primary health system could improve individuals' and groups' health levels, and reduce overall health care costs of health problems. Song et al. (2011) carried out comprehensive physical examination for 2555 employees in 65 units, who joined the health management program in the General Hospital Affiliated to Tianjin Medical University in 2008. According to the results of physical examination, targeted treatment was carried out among people suffering from all kinds of disease, and health education, intervention of life behavior and dietary nutrition were offered to all participants. The re-examination results showed that the incidence of hyperlipidemia, hypertension and acidosis was lower than that before intervention one year later, indicating that health management resulted in good effect of health promoting. Ren et al., (2014) drew a conclusion from experiments that health management had good effects on both simple obesity and non-simple obesity.

### **3.1.3 Characteristics of health management services**

Health management is a typical service industry. It can be seen that the targets of health management services include healthy people and sub-health groups in addition to unhealthy groups. The core idea is to intervene and control various factors that affect health, changing from "passive treatment" to "active intervention." , and from "concern about the disease" to "health management"(Fu et al., 2007) .

The customers will not be able to see, touch or collect complete service information before accepting medical service, making it harder to "shop around" like buying tangible goods, and an ordinary person does not have enough medical knowledge to make accurate assessment of service quality. Customers will assess the quality of service based more on tangible clues such as the service staff, the facility, the contact way and so on, to reduce the uncertainty. In order to reduce the risk of bad purchase, customers usually take

recommendation from friends and family, the social reputation of the organization and their past service experience into account. However, health service evaluation takes a long time. Customers with only one or two experiences usually cannot feel the benefits of the service. They can only believe in the introduction and commitment of the service staffs. Therefore, enhancing customer`s satisfaction with health-care services is not only concerned about technical expertise alone, but also many other factors. In order to expand their business, health management enterprises must pay considerable attention to eliminating customer`s doubts and cultivating customer`s confidence. In health service, customers will directly participate in this process, so the interaction between health managers and customers is quite frequent. The quality of this interaction has direct impact on the quality of service. The indivisibility of health service and its service subject determine that the health service is often an one-to-one issue, so its efficiency is naturally limited. The process of health service inevitably involves human and makes it difficult to maintain health services at a particular level.

### **3.2 Maslow's hierarchy of needs**

Maslow's hierarchy of needs is a theory in psychology proposed by Maslow (1943) in his paper "A Theory of Human Motivation" in *Psychological Review*. Maslow subsequently extended the idea to include his observations of humans' innate curiosity. This theory has been widely applied in the field of marketing to explore the innate factors that influence customers' purchase behaviors. It is introduced here to explore consumers' needs in health management industry.

#### **3.2.1 Content of Maslow's hierarchy of needs**

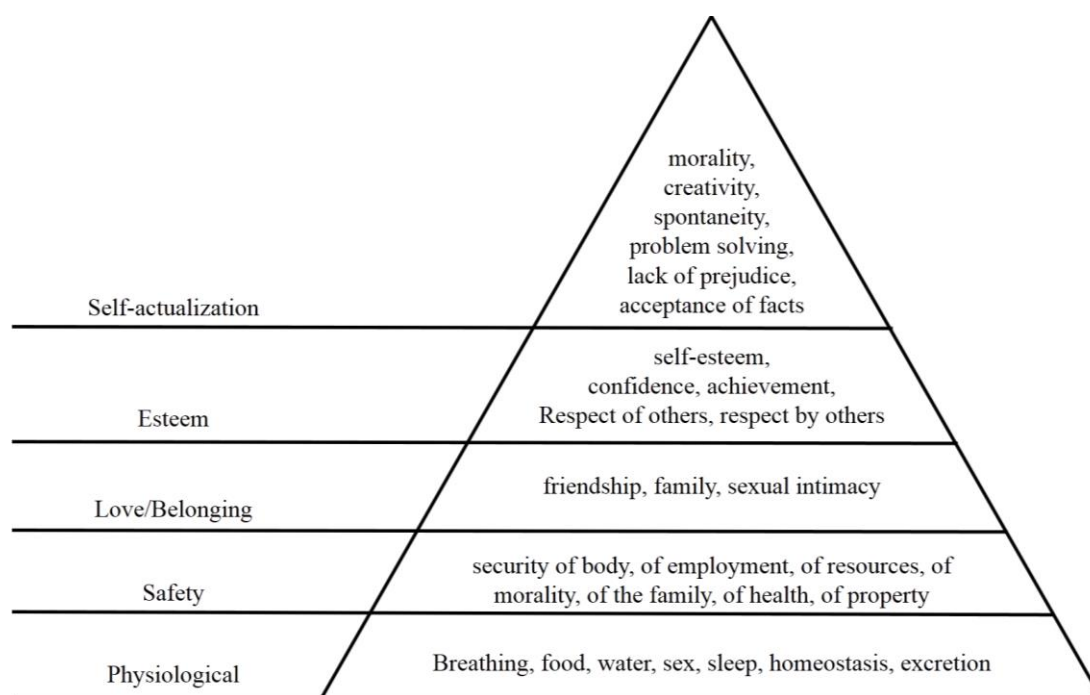
According to Maslow's theory, the demand for individual development is the driving force of development. This demand is composed of many factors in different levels, and a clear understanding of these factors is critical for grasping the need of each level and its satisfaction degree, so as to affect the level and height of individual development (Maslow, 1943). According to Maslow's hierarchy of needs, human needs are hierarchical, and from

low to high, they are physiological needs, safety needs, social needs, respect needs and self-actualization needs, as shown in Figure 3-1.

### 3.2.1.1 Physiological needs

Physiological needs, as necessary product in the long-term evolution of mankind, are the most basic needs of human for material, including air, water and food, and are necessities for racial continuity, including sex, residence, medical etc. If any one of these needs is not satisfied, the survival and reproduction of human beings will be threatened. That is to say, they are the strongest, the most primitive and inescapable needs at the bottom level, presenting the animal characteristics within human body, while also the great impetus to the germination and development of human civilization.

Figure 3-1 Maslow's Hierarchy of Needs



Source: Maslow (1943)

### 3.2.1.2 Safety needs

Safety needs include labor safety, occupational safety and stability in life, and they are reflected in the avoidance of risks and the pursuit of long-term stability. According to Maslow's theory, safety needs are at a higher level than physiological needs, and can be

regarded as a guarantee for long-term physiological needs. Safety need also runs through every corner of our lives, such as the people's yearning for security and freedom, and it is also a necessary requirement for human civilization.

### **3.2.1.3 Social needs**

Social needs, also called the needs for belongingness and love, refer to the individual's desire for care, love and understanding from their family, community, friends and colleagues. They are also the needs for friendship, trust, warmth and love. Social needs are much subtler and more elusive than physiological and safety needs, and are related with personal character, experience, living region, nationality, life habit, religious belief and so on. These needs are difficult to detect and cannot be measured.

### **3.2.1.4 Respect needs**

Respect needs can be divided into three categories: self-esteem, respect from others, and lust power, including self-respect, self-evaluation, and respect for others. These needs are seldom completely satisfied, but even basic satisfaction can generate impetus.

### **3.2.1.5 Self-actualization needs**

Self-actualization needs are the highest level of needs. To meet these needs, completion of jobs fitting one's ability, full play to one's potentials and realization of one's expectations are all required. People with self-actualization needs can able to do their best to make themselves perfect. Self-actualization means experiencing life fully, actively, selflessly, and attentively.

## **3.2.2 Characteristics of consumers' needs in health management**

Consumers, who are economically affordable, have needs for health services when they have desire for medical service because of psychological or physical discomfort or intention of disease prevention. Consumers' needs in health services generally include: physiological needs like eliminating body discomfort, safety and health needs like maintaining or improving mental state, social needs liking establishing their own image, information needs like counseling information about health and so on.

Nowadays, the rapid development of science and technology and significant improvement of life quality make people pay more and more attention to health. While limited medical resources cannot meet the growing demand for medical care, consumers' needs form a hierarchy from low to high, as reflected in Maslow's theory. People's consumption level has also been upgraded from the traditional basic living needs to consumption of development type and enjoy type, and the medical consumption model has also changed from the simple and basic medical consumption to complex patterns in various forms, such as health protection and improvement of physical fitness. Unlike those in other service markets, consumers' needs in health management industry have unique characteristics, more easily affected by the following factors (Liu, 2013a):

The payment capacity, including individual's ability, social medical insurance company's ability, government's ability and so on.

Demographic characteristics. Consumers' demand will change notably with age due to change in physical conditions. Male and Female do not share same concept of health consumption, leading to significant difference in health consumption behaviors.

Regions. Different regions with different climate, culture, ethnic groups and lifestyle result in different consumer preferences and purchasing power.

In addition, due to the complexity of health management services, consumers' lack of health knowledge and information are unable to identify clearly their needs or choose the proper service, and it is difficult for them to make accurate assessment about the quality and price of the service. Since consumers' lack of relevant knowledge, there is obviously information asymmetry between service providers and customers, resulting in unequal status in health management service.

### **3.2.3 Influencing factors of consumers' needs in health management**

Maslow's hierarchy of needs theory, as a classical theory to reveal the laws of human psychology, lays theoretical foundations for many disciplines. In the health management industry, Maslow's hierarchy of needs theory can also be utilized for different levels of consumer needs. The higher the income of consumers is, the higher level they can achieve. In addition to dividing the hierarchy of consumers, service satisfaction can also be divided into

corresponding levels (Liu, 2013a). Generally speaking, the five levels of consumers' needs in health management industry have quite different influencing factors, so relevant marketing strategies should be taken to attract the attention of consumers on different levels.

(1) Consumers on the level of physiological needs have insufficient demands for health management in theory, because health management is an extra service, not consumers' necessities, and in this case, prices often have a great impact on consumption. Lower price and higher cost performance can lead to more consumption. Therefore, if the government wants to implement comprehensive health management services, subsidies and preferential policies are essential for consumers on this level (Liu, 2013a).

(2) Consumers on the level of safety needs are more concerned about the quality and safety of the service. On the condition of no remarkable difference in price, high quality and safety of health management service can stimulate the purchase intention. In China, health management services provided by high-end hospitals can generally attract these consumers (Wang, Wu & Li, 2015).

(3) Consumers on the level of social need to concern the role of health management service in social communication in addition to quality and safety. Promotion of social communication with other people can often trigger their purchase behaviors. Aimed at these customers, company of health management can pay more attention to their platforms, and packaged sales in the form of enterprise or family group buying are more likely to open the market of customers on this level.

(4) Consumers on the level of respect needs attach more importance to approval of others and regard health management service as status symbol. When consumers are choosing, high-end technologies, special packaging, unique functions, and even high prices become the reasons for their purchase. They prefer the newest technology in the service, hoping to enjoy the benefit of the most advanced technology and to experience the best service, such as private doctors and new gene technology. Health management service can promote the application of high-end technology in the field of health care, which would undoubtedly make consumers in the level of respect needs satisfied.

(5) Consumers on the level of self-actualization needs are insensitive to the needs mentioned above, which is only concerning materials. These consumers often get satisfaction

from spiritual aspects such as feelings, beliefs and cultures, so services should dive deep into their spiritual realm for acceptance. Health management must be modified in accordance with specific circumstances in China in order to realizing the full potential. For example, the culture of Chinese medicine with a long history cannot only supplement health management services by medical theories, but also makes it easier for Chinese consumers to accept the new service of health management.

### **3.3 Overview of service marketing**

Service marketing refers to the comprehensive adaptive behavior of service organizations to satisfy consumers' needs through active interaction with consumers in the production, provision and whole process of their services. In a word, service marketing is the marketing of service products. The core concept of service marketing is service concept whose core lies in customer orientation, which is based on the relationship marketing and customer satisfaction theory (Liu, 2010). Therefore, establishing and maintaining good relationship with customers, providing high quality service, enhancing customer satisfaction and loyalty are the goals of service marketing.

Service marketing came into being in 1960s. In 1966, Professor John Rathmall first separated invisible service from tangible physical products, and proposed that the service marketing should be studied in a non-traditional way (Liu, 2010). The rise of service marketing originates from the rapid development of service industry and the objective fact that service has become the focus of competition in product marketing. The development of service marketing has gone through the following stages.

The first stage (60s and 70s of twentieth century) is the embryonic stage of service marketing (Li, 2008): the similarities and differences between service and tangible products, the common characteristics of most services, and the differences between service marketing and marketing are mainly discussed.

The second stage (early and mid of 80s) is the theoretical exploration stage of service marketing: researchers mainly explored how the characteristics of services affect consumers' purchasing behavior, especially focusing on the their assessment of characteristics,

advantages and disadvantages and potential purchase risks of service, as well as classification issues (Liu, Chen, & Huang, 2006).

The third stage (after mid of 80s) is the stage when theoretical breakthrough and practical achievements are realized: researchers mainly explored whether the traditional marketing mix can be effectively applied to services promotion, what kind of marketing tools are needed and issues such as service marketing strategy and organization management, and then came up with a "7P" and "4P" marketing theory (Liu, Chen, & Huang, 2006). 7P includes product, price, place, promotion, people, physical evidence and process. The researchers gradually recognized the role of "people" in service production and promotion, from which two major areas, relationship marketing and service system design, are derived. Compared with traditional marketing, service marketing focuses on preserving and maintaining existing customers, and pays attention to long-term interests and customers' loyalty. Service marketing pays attention to the role of service and provides adequate commitment to customers. It emphasizes communication with customers and suggests that quality depends on both product and service.

From the academic point of view, the differences between service marketing and marketing are as follows (Liu, 2010):

(1) Different study object. Service marketing mainly takes service as research object, while the traditional marketing generally takes tangible products.

(2) Strengthened study of customer's participation in production by service marketing. Service is inseparable, and the provision of service is generally synchronized with the consumption of service, so service marketing has strengthened the research on customer's participation.

(3) Service marketing emphasizes that people are part of service products, and the internal coordination is emphasized so that the enterprises can complete the external marketing more effectively.

(4) Service marketing highlights the tangible display of services. Compared with common products, service has the characteristic of being intangible, and the tangible display strategy is important means of service marketing.



(5) There are different points of view about quality issues, and service marketing pays more attention to the management of the service process.

(6) There are differences in the focus on logistics channels and time factors, and service marketing is inseparable.

### **3.4 Services quality and customer satisfaction in healthcare industry**

#### **3.4.1 Customer experience in healthcare Industry**

In 1986, American researchers suggested that the research on "patient satisfaction" should be replaced by "patient experience", so as to collect and evaluate the experience of patients in medical service (Frampton & Guastellos, 2008). Since the 1990s, the research on patient experience has been paid more and more attention and developed rapidly with an increasing credibility of the result, which has become an important reference for the hospital payment, hospital management and the choice of hospitals in the developed countries such as Europe and the United States (Louviere, 2009). Patient experience is any process perceived or observed by the patient during the visit to the doctor, which is also the most direct and psychological feelings of the patient, including the cognitive and emotional experience. The sensory experience of patients has a positive effect on the satisfaction of medical services.(Lagace, Dahlstrom & Gassenheimer, 1991).

With regard to the understanding of experience, some scholars believe that the organizational image experience comes from two factors: functional factors and affective factors; the functional factors are factors that analyze the organizational performance which is relatively easy to measure in the organization; affective factors are mainly factors that evaluate issues in the organization that are not easily measured, such as service attitudes (Davis & Blomstrom, 1993). The customers obtain different experiences during the contact with the organization, that is to say, customers experience different functional experiences and emotional factors included in the organization, which will lead to different psychological choices (Li, Luo & Yao,2012).

The US picker research company has long been committed to the development of medical service satisfaction survey tools. In 2002, Picker Europe developed the Picker Patient Experience Questionnaire (Jenkinson, Coulter, & Bruster, 2002), which changed from the traditional satisfaction question to the patient's personal experience process. Centered on satisfaction surveys and analysis in eight dimensions: information and education, coordinated and integrated services, comfortable physical environment, emotional support, respect for patient expression needs, family and friend involvement, service transformation and continuity, the total impression. This becomes the basic framework for the global patient experience and satisfaction questionnaire.

Patient satisfaction based on patient experience and perception has become an important indicator of the quality of medical services (Eriksen, 1995). Evaluating the quality of medical services is actually the whole process of perception and interpretation of medical services by specific groups. Studies have shown that there are four elements of experience that affect patient satisfaction, including feelings of being cured, security, caring, and cooperation, which reflect patient's perceived need for medical services: when a patient feels that the doctor is dealing with the root of the disease, he will have a "cured feeling" and thus have a higher degree of satisfaction with the medical service; when he feels that not only his disease has been taken care of, but also his emotions are also concerned, he will have a "feeling of being cared"; when the patient feels that his condition has been carefully examined and explained in detail, there will be a sense of "security"; when the patient feels that he or she is actively involved rather than passively obeying during the diagnosis and treatment, there will be a sense of "cooperation," and all these elements will affect their satisfaction (Chen, Li, & Wang, 2016). It can be seen that patient satisfaction is a complex and multidimensional concept. These factors are manifested as follows in medical procedure: the sense of security in the hospital, the sense of caring in the waiting time, the sense of security brought by medical expenses, the sense of cooperation brought by the service attitude, and the sense of being cured during treatment, which all influence patient satisfaction.

In the research on patient experience, the evaluation index focuses more on the details of the medical treatment, whose contents are what patients are most concerned so that the respondents can express their true feelings (Tan & Zhang, 2014). The result of the research is

often "satisfied" or "unsatisfied", which ignores the emotion factors in service interaction (Yin, 2003) and has the characteristics of "grading". The research tracks and measures the experience of patients from hospitalization to discharge, and uses this as a basis to analyze the results. It traces the defects of the quality of medical services perceived by patients, featuring "evidence-based". In terms of research methods, the questionnaire survey is usually conducted, so that the results are superficial. However, in the research on patient experience, the methods of questionnaire survey and in-depth interview are combined, so as to obtain the patients' true experience of the medical treatment (Tsianakas et al., 2012). That is, in the initial stage of the study, the questionnaire survey was used as a preliminary screening tool for finding problems, and then interviews were used to obtain relevant details to help the medical personnel find concrete ways to improve service quality.

### **3.4.2 Customer satisfaction in healthcare industry**

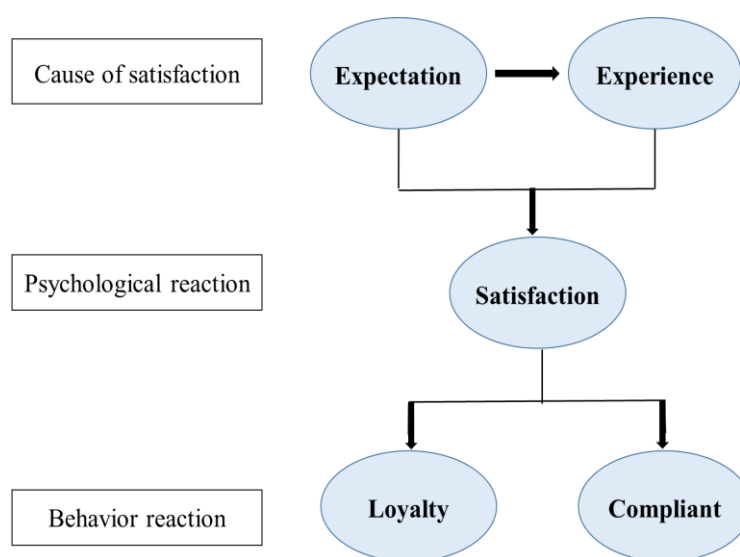
The theory of customer satisfaction is a marketing strategy that has gradually emerged among enterprises in Western countries in the 1970s. The main idea is that all production and management activities of the enterprise must be carried out around the needs of customers. All customers are centered on the production of the company. The relationship of all stakeholders in the activity, including internal employees, suppliers, sellers and final consumers, etc., to maximize customer satisfaction from the perspective of customer benefits (Yao, Shen, & Wang, 2011). According to Philip Kotler (1977), the customer's evaluation of the satisfaction of the product or service received is the difference between the customer's expectation of the product or service and the actual utility of the product or service. "Satisfaction" is the feeling of psychological satisfaction or psychological gap formed after a customer consumes a product or service and compares its expectations for the product or service with the actual utility of the product or service.

Many scholars at home and abroad use the customer satisfaction model to explain the formation of customer satisfaction. Currently, the widely used models are the SCSB model, the ACSI model and the ECSI model. The ACSI model is the most standardized and scientific in terms of model construction and practical operation. In 1994, the US National Quality Research Center and the American Quality Association jointly created the US Customer

Satisfaction Index model (Fornell et al., 1996). The model is based on research customers, with customer satisfaction as the core variable and loyalty as the final variable. By finding the causal relationship between variables, the role of improving the performance of the enterprise is achieved. In this model, customer expectation, perceived quality, and perceived value are the causal variables of customer satisfaction, while customer complaints and customer loyalty are the result variables of customer satisfaction. Perceived value, assessed by customer, is the overall evaluation of product or service after weighing the perceived profit of customer and the cost of acquiring the product and service (Zeithaml, 1988). Perceived value is subjective and varies from customer to customer.

Generally speaking, customer satisfaction in the healthcare field, that is, satisfaction of patient, reflects their satisfaction with the interaction with the health system. Patient satisfaction refers to the evaluation and judgment of whether the medical service perceived by the patient reaches his psychological expectation. That means the experience influences patient satisfaction. This is a reflection of patients' psychological state when they receive medical services, and the result of pleasure or complaint that result from the comparison with the expectation and the actual experience during healthcare service, as shown in Figure 3-2. The satisfaction mainly include the medical environment, waiting time, service attitude, medical technology, treatment effect and cost (Hou & Ma, 2011).

Figure 3-2 Patient Satisfaction Psychological Process



Source: Hou and Ma ( 2011).

As far as patient satisfaction is concerned, it has gradually been paid attention in the field of medical and health services, and its theory has been rapidly developed and applied. From the early 1970s onwards, a large amount of research on patient satisfaction were conducted abroad, mainly on the concept of patient satisfaction (Hafer & Joiner, 1984). In the 1980s, foreign scholars paid more and more attention to it, recognizing the satisfactions one of the important indicators of hospital service quality, and the research mainly focused on patient-centered medical service quality evaluation (Hannu, 1998). From the early 1990s, methods and models of evaluation have gradually matured.

However, the notion of customer satisfaction is relatively complicated, not easy to define. According to the statistics by Giese and Cote (2000), there are approximately 20 definitions put forward in marketing literature over a 30-year span (from 1970 to 2000), and more are emerging in recent years. In the health care industry, customer satisfaction has always been a hot research topic for over half a century. One of the main reasons may be that an intimate and personal bond is established between doctors and their patients, and the quality of relationship formed between them can have a considerable influence on results. (Stewart et al., 1979). According to the study of Camgöz-Akdağ and Zineldin (2010), the evaluation of patient satisfaction is being given more attention in developing countries in recent years. The results form a foundation for formulating business strategies and improving competitive advantages. In order to make it clear, Vladimir and Veljko (2013) have carried out a research on customer experience of health care service, and concluded that three factors (personal relationships, promptness and tangibility) have significant effect on patient satisfaction, with personal relationships having the strongest effect.

Some scholars review the literature of the communication between doctors and patients, classify the different communication purpose and behaviors between doctors and patients. The purpose of communication is divided into three kinds, that is, achieving good relationship, exchanging information and making decision, communication behavior is divided into treatment oriented or love oriented, and using professional language or using popular language and so on. This classification is widely applied in future research (Ong et al, 1995).The service attitude of medical staff to patients and the consistency of medical staff will affect the quality of service accepted by patients. In general, the relationship between

patients and medical staff has been considered as one of the important factors to measure the quality of service (Donabedian, 1990). The clear answer of medical staff to patients' health status, inspection process and treatment results can greatly reduce patients' insecurity. In a study aimed at developing countries, scholars have found that patient satisfaction increases with the improvement of the response of the medical staff to the patient's needs and the improvement in the quality of communication between the medical staff and the patient (Andaleeb, 2001).

With the deepening of China's health care reform, more attention has been paid to "patient satisfaction" in theory for service reforms for hospitals. However, medical service is a special service industry with high technology, so the supply and demand sides of medical services suffer from serious asymmetry of information. Patient satisfaction evaluation is a kind of experiential judgment on experiences in medical treatment. In the research on patient satisfaction, the patients' cognition of hospital services is regarded as an evaluation index, whose contents are mostly concerned by medical managers and doctors. Therefore, analyzing patient satisfaction has become a must for hospitals to meet patients' needs (Huang, Chen, & Chen, 2015). In order to achieve continuous improvement of medical service quality and management, hospitals must improve their satisfaction. In the late 1980s, the research on patient satisfaction was conducted in various regions and hospitals in China. Although the government had incorporated the result of patient satisfaction survey into the grading evaluation system in hospital, there were still no standard and unified questionnaire form and evaluation system. In the twenty-first century, with the introduction of "patient experience", most hospitals or research institutes integrates the two concepts of "patient experience" and "patient satisfaction". And the questionnaires emphasize the patient's participation and demand for hospital services in many aspects, so as to track their detailed experience and feelings of the medical treatment during hospitalization (Tan & Zhang, 2014).

### **3.4.3 Services quality in healthcare industry**

The study of service quality originated in the 1970s, mainly based on the quality of tangible products as judging basis. Since intangible services are essentially different from tangible material products, there are only a limited number of researches on intangible

services. Based on the conceptual model of service quality, Parasuraman, Berry and Zeithaml measured and evaluated service quality in terms of tangibility, reliability, responsiveness, assurance, and empathy in 1988, which is SERVQUAL service quality evaluation method (Parasuraman, Berry, & Zeithaml, 1988). The method measures the quality of service according to the perception of the user and the difference between the perception and expectation. The quality of service is a function of the difference between the perception and expectation of service. If the perception is less than expectation, a negative function indicates that the customer is not satisfied with the service and the service quality is not good; if the perception is greater than expectation, the function value is a positive value or 0, indicating that the customer's expectations have been met, the service quality is good, and a high satisfaction with customer requirement satisfied (Chen, 2013).

In general, the quality of medical services is different from that of other industries. It is often difficult to define who should assess the quality and results of medical services. Patients lack sufficient expertise to evaluate their treatment (Newcomer, 1997). Therefore, patients often rely on non-technical, process-related factors, such as their relationship with medical staff and the surrounding environment, to assess the quality (Bowers, Swan, & Koehler, 1994). Although SERVQUAL is widely used today, it is not suitable for direct application in the quality of medical services, because SERVQUAL is based on a comparison of customer expectation and perception of service quality, and their expectations are inaccurate and difficult to measure (Fitzpatrick & Hopkins, 1983).

Traditionally, service quality in health care industry, known as the quality of diagnosis and treatment, mainly refers to the timeliness, effectiveness and safety of health care service. With transformation of health care mode and the change of people's needs, the factors influencing the quality of the service have expanded to aspects like work efficiency, cost control, service attitude, quick response to customers' demand, respect for customers' values, patients' participation in treatment and the accessibility of services (Yao & Li, 2009). And the modern concept of health care quality has laid emphasis on patient satisfaction, medical efficiency, medical technical and economic effect, and continuity and system artiness of health care, determining the complicated relationships among quality, cost, and accessibility of health care (Carroll, 2012).

In 1968, Donabedian stated: "The quality of medical services refers to the ability to use reasonable methods to achieve the desired goals " (Dong & Wang, 2001). According to this definition, he divided the quality of medical services into three parts, that is structure quality, process quality and outcome quality. In this definition, the structural quality mainly refers to the basic conditions of medical institutions, including staffing , construction and equipment, organizational conditions , and management systems, etc. Many of these factors are the guarantee for the quality of medical services, because there is no basic guarantee for the quality of medical services without competent staff and necessary facilities, and rules and regulations for the good organization, use, and management of medical personnel and medical equipment. Process quality refers to the implementation of technical management requirements with basic requirements for medical services, such as routine procedures, operating procedures, and work systems. These norms are based on the more mature science and technology at that time, making it possible to obtain medical benefits and avoid risks. Outcome quality is mainly measured by the output of medical services, including cure rate, patient satisfaction, etc (Zhou, 2008).

The customer's understanding of the quality of the medical service is often based on their perception. The quality depends on the degree to which the perceived and expected quality of the medical service are consistent. Therefore, from the perspective of customers, the quality of medical services is mainly “what they acquire , that is the benefits on their health and life they get, and the treatment in the medical services”, which is the quality of the technology and the quality of the functions defined by Christian Grorobos (Chen et al., 2016).

The quality of technology is the core pursuit of customers who are seeking medical services in institutions. As a core content of medical service quality, it can be measured in certain forms, such as the healing status and time of hospitalization. Functional quality is the satisfaction and enjoyment of customer needs brought about by the staff's attitudes, behaviors, and appearances, as well as the medical environment of institutions in the service. The customers' evaluation of functional quality is entirely dependent on their subjective experience in the process of receiving medical services, and it is difficult to objectively evaluate in many cases (Zhou, 2008).



To improve service quality of health care, there must be continuous evaluation of various dimensions of received services by customers or patients (Vladimir & Veljko, 2013). Their experiences are useful for improving health service quality (Morrow *et al.*, 2010). In the evaluation of services, customer satisfaction is a most important index. (Sajid & Baig, 2007). The identification of factors influencing customer satisfaction can also assist managers to improve existing services (Tucker, 2002). Mosadeghrad (2013) pointed out that service quality means "according to the latest clinical guidelines and standards, by providing effective and efficient medical services to meet the needs of patients and the needs of medical service providers, so that patients receive lasting satisfaction"; he believes that the quality of medical services actually means an activity "providing appropriate health care services at the right time, right place, with right price, and through suitable methods and by suitable providers to a patient with a suitable need .

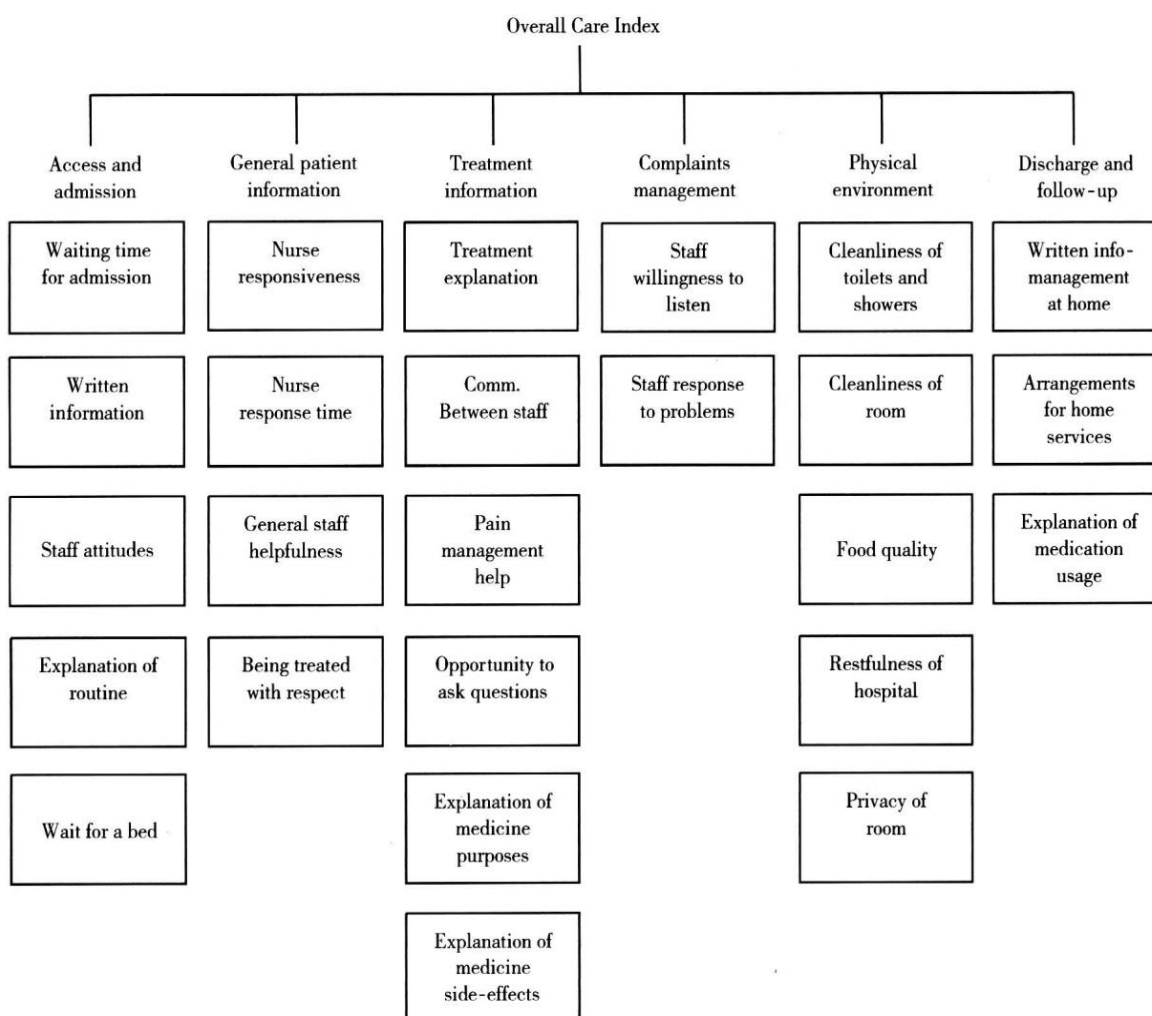
#### **3.4.4 Chinese hospital patient experience and satisfaction monitor**

Patient experience and satisfaction survey has been regarded as an important method of collecting patients' opinions on medical services and improving the quality of management. From 2005 to 2009, Australia Victorian patient satisfaction monitoring, VPSM was introduced localized and adopted by over 50 Chinese hospitals (Wang et al., 2011). The purpose of CHPESM (Chinese Hospital Patient Experience and Satisfaction Monitor) is to collect the degree of the experience and satisfaction in each service segment in medical services, and to provide the basis for the hospital to clarify its own problems and achieve quality improvement (Huang et al., 2011). The CHPESM scale is intended for inpatients who are undergoing discharge procedures or who are going to do so, thereby avoiding possible Halo-effects that may occur during hospitalization of patients during hospitalization, and the low recovery rate that may result from the choice of discharged patients (Chen & Huang, 1999).

The specific content of the CHPESM scale: Overall degree of satisfaction, evaluation of medical technology, evaluation of hospital service and management, index of service quality in overall and individual segments. The index is the core framework of CHPESM. The order of CHPESM scale items is in coordination of the entire process of receiving inpatient treatment services of patient, that is, entering the hospital, entering the ward, hospitalization,

and experiences and ratings of hospital service work, discharge procedures, and overall evaluation of this experience. This sort of arrangement has a rationality, which is convenient for patients to recall the hospitalization process and give corresponding evaluations. It is a good mode for systematic evaluation of the patient's experience in the whole hospitalization process (Huang et al., 2011).

Figure 3-3 Chinese Hospital Patient Experience and Satisfaction Monitor



Source: Huang et al. ( 2011)

### **3.5 Brief summary**

In this chapter, the theoretical literature is reviewed. Firstly, relevant literature review on health management is introduced, presenting extensive theoretical and practical exploration on the concept of health management and the role of health management in improving health and reducing medical expenditure carried out by scholars from all over the world. Secondly, the Maslow's hierarchy of needs about the hierarchical human needs is introduced, and characteristics are analyzed, as well as their influencing factors. Thirdly, the concept of service marketing and its characteristics are introduced. At last, this chapter also introduces the notions of services quality and customer satisfaction in healthcare industry.

[This page is deliberately left blank.]

## **Chapter 4: Research Method: Content Analysis**

In this chapter, the application of content analysis in China is introduced, and the concept, procedure and characteristics of Chinese content analysis, as well as the means to obtain, process and analyze the relevant Chinese information are also introduced systemically.

### **4.1 Introduction of content analysis**

#### **4.1.1 Basic concept**

Content analysis is a scientific research method that enables researchers to collect large amounts of textual information and systematically identify its properties, such as the frequencies of most used keywords by locating the more important structures of its communication content (Harwood & Garry, 2003). Such amounts of textual information must be categorized to provide a meaningful reading of content in scrutiny. For example, David Robertson created a coding frame for comparison of modes of competition between British and American parties. It was developed further in 1979 by the Manifesto Research Group aiming to develop a comparative content-analytic approach on the policy positions of political parties which created the Manifesto Project Database later (Qiu & Zou, 2004).

Content analysis was first adopted in the field of communication by the team of Harold Lasswell, who obtained a large amount of military secrets effectively by analyzing the content of German newspapers during the Second World War (Lasswell, 1948). After Lasswell, Berelson (1952) put forward the definition of content analysis as "a research approach for the objective, systematic and quantitative description of the content of communication". After then, its application has been expanded significantly to many fields like sociology, psychology, politics and marketing research. Thanks to technological advances and fruitful application in mass communication and personal communication research, content analysis has enjoyed a renewed popularity in recent years.

Content analysis is a qualitative research method based on quantitative analysis. Content analysis converts documents represented by language into data represented by quantity, and describes the results of analysis in statistical form (Lu, 2004). By analyzing quantity of the content, the features of the nature of contents can be found out, overcoming the defects of subjectivity and uncertainty in qualitative research and achieving a deeper and more accurate understanding of the innate characteristics and essence of the content.

With rapid development of information technology and network, the application field of content analysis is constantly expanding. In the early period of content analysis, its research object was mainly content in texts, whose explicit information could be extracted and analyzed easily and effectively. The development of information technology allows computer conducting content analysis of text information, boosting efficiency of information collection, processing and analysis greatly (Kassarjian, 1997). Nowadays, with a large variety of ways of expression, the object of content analysis has been extended to all kinds of texts, images, audios, videos, and so on. For instance, through the content analysis of relevant online reviews, Rodrigues et al., (2017) carried a research on critical factors of medical tourism. With the change in demand for information services, the key of research has shifted from statistical analysis of explicit information to the extraction of implicit information (Qu & Ma, 2013). No matter what type of content and information is, the success of this method is attributed to deep and comprehensive grasp of the nature of information. Through thorough understanding and decomposition of content, accurate and systemic results can be gained based on qualitative analysis of information.

The essence of content analysis lies in the analysis of the information in the content and its hideous change tendency, that is, the process of inferring useful and valuable information from the massive words expressed in the content (Zeng, Zheng, & Zhang, 2015). So, a very important methodological foundation of content analysis is inference method, including trend inference, co-variation inference, causal inference, and so on. Another foundation is comparison method, including trend comparison, comparison of different bodies of content, intra-content comparison, comparison of content with a standard, and so on (Zhou & Qiu, 2005).

#### 4.1.2 Process of content analysis

The process of carrying out a research through content analysis method can be divided into following six steps (Qiu & Zou, 2004):

(1) Identify the subjects and purpose of analysis and put forward hypotheses on this base. Each of the following steps is based on the purpose of the analysis, so a clear purpose is crucial and fundamental in content analysis.

(2) Choose information samples. For content with huge amount of information, it is not possible or necessary to use all the information relevant with the research. In order to improve the research efficiency and ensure the accuracy at the same time, the sampling method can be adopted to select the appropriate information samples which are the most conducive for analysis and contains as much useful information as possible.

(3) Determine analytical units. These units is supposed to be connected with the purpose of the analysis to a certain degree, such as words or punctuation, subjects, characters, phrases with independent meaning, sentences or paragraphs, and even the whole information aggregation.

(4) Set up an analytical system and determine the classification criteria for the analysis unit. All the analysis units in step (c) should be sorted out into certain categories which can best illustrate the purpose of the analysis. To guarantee the correctness and consistency of the analysis, the collection of categories should be mutually exclusive and independent, that is, one analysis unit can only match one particular category. In addition, it should be determined in this step that what kind of categories need to be counted and what is the statistical method.

(5) Perform quantitative analysis and calculation. In this step, the statistics of the categories are conducted mainly according to the statistical method determined in the former step. In the early years, statistics of content analysis is carried out manually, which is time-consuming. In modern times, it is mainly done digitally. So firstly, the analysis unit should be coded, transforming the text language into languages which computers can identify. And then the statistical analysis method will be used to calculate the frequency, semantic intensity or spatial amount of each classification set. It is generally believed that the most

widely used statistical analysis method in quantitative study of content is frequency measurement, which is counting the occurrence and percentage of each variable.

(6) Analysis and summing up. Analyzing the usefulness and reliability of statistical conclusions, the researchers put forward their own views and draw final conclusions combined with qualitative judgment of the information.

#### **4.1.3 Characteristics and applications of content analysis method**

The content analysis method has been developing continuously for nearly half a century. During this period, content analysis method has gradually developed its own characteristics, which can be described as follows:

(1) The subjects of content analysis are extensive. They can be literature content, and also can be a variety of images, audio, video, multimedia and so on. Any literature information with exchange value can be the object. In terms of content, it can be academic information or any social information; in terms of form, it can be printed documents, or other carrier of literature information; as for the audio and video content, any TV show, radio program, Internet or traditional advertising can be used as the research object of content analysis (Zheng, 2006).

(2) Content analysis can have large time and space spans. Social phenomena and events are not unreproducible, while all sorts of literature can record their development process to a certain extent, so they can be utilized to analyze and study on the social phenomena. As long as there is enough literature and data, the restrictions of time and space can be broken, and comparative study of society with large span and various aspects can be carried out successfully.

(3) The analysis result is relatively objective. The research object of content analysis is not people, but the things reflected in the information. In content analysis, there is no interaction between researchers and objects, so the result is relatively objective. The method of extracting literature samples also makes it representative (Zheng, 2006).

"Information explosion" was born along with the network era expanding largely the access to available information, whose content becomes diverse and inclusive. In this case, relying on manual method for content analysis adds difficulty. Therefore, new technologies



are needed desperately to carry out content analysis to improve the analysis efficiency and credibility of the results. Therefore, computer aided content analysis (CACA) has become a new hot spot in this field (Lu, 2004).

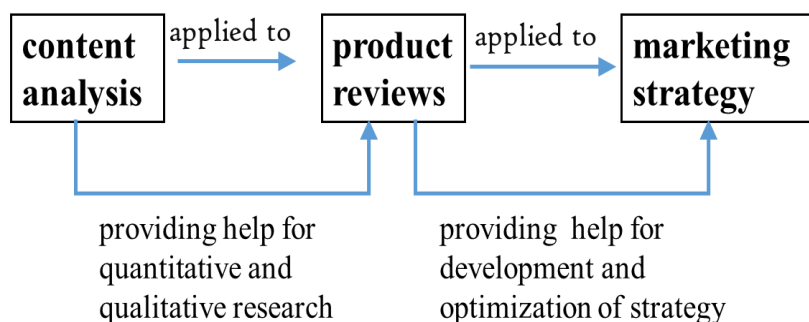
In computer-aided content analysis, the computer is primarily used for data management. In the process of data collection, storage, editing and sorting, the computer has the incomparable speed advantage compared with manual method. The data encoding work can also be carried out by interactive online computers, which encodes the e-text automatically and establishes an electronic word library based on content analysis and exact definition of the word order and word meaning. Another significant advantage of computer-aided content analysis is that it can be used for advanced and rapid validation of the reliability and validity of classification. Computers can not only carry out more in-depth statistical analysis of the relevant categories and variables, but also ensure the objectivity of the coding (Wu & Rao, 2017). Therefore, the full and effective utilization of computer technology is beneficial to the application and development of content analysis.

## **4.2 Method of acquiring information data**

The rise of Web2.0 provides users with an open platform to express their views, and websites are flooded with more and more online information and commodity reviews flood. Some positive comments can help customers understand the detail of the commodity and the attitude and quality of the service, so as to influence them positively to make a good choice of purchase. At the same time, derogatory comments can be treated as feedback mechanism so as to help producers to improve their product quality, service attitude and optimize marketing strategy for better competitiveness (Shao, Wang, & Ma, 2010). With the rapid growth of the number of online reviews, useful information is buried in useless, irrelevant information, making users paralyzed facing overwhelming data, and information acquisition becomes a difficult task. How to obtain the most useful knowledge from the huge body of reviews through some technical means has become a hot topic in today's research (Dong, Li, & Yang, 2005). Content analysis method is applied so as to formulate a variety of product indicators for small and medium sellers, and to improve and perfect their original indicators, providing

valuable theoretical reference for them to improve sales volume and optimize marketing strategy (Zhao, Wang, & Peng, 2015). The relationship of content analysis, product review, and marketing strategy are illustrated briefly in a Figure 4-1.

Figure 4-1 Relationship of Content Analysis, Product Review, and Marketing Strategy



Different from traditional shopping mode, transactions of e-commerce are finished through the Internet in a digital way, and Alipay and other online payment means enables online ordering, payment, banking and shopping to be done at home. Comparing the two shopping means, it can be found that in traditional shopping, whether in hypermarkets or stores, there will be shopping guides to introduce goods to customers, and customers can also try on and compare directly the different goods. While in the online shopping, customers are faced with a dazzling array of goods, but are more confused due to no access to the real and practical commodities. In this condition, sellers always have more information than buyers, leading to a certain degree of information inequality, which is also the bottleneck that online shopping cannot be carried out smoothly (Lu & Zhang, 2016). The introduction of goods online is mainly presented by the sellers through photos and descriptions, which cannot be fully trusted by the buyers, so viewing other buyers' comments is an important way to help them make purchase decisions. In addition, they think viewing the review information from other buyers is the most reliable way to know the details of goods at present.

In addition to many shopping websites, there are some special online forum and review sites about products, such as "baidu", "zhihu" and "dianping.com", and these websites are getting more and more popular, becoming a platform for referring review information of products by both merchants and consumers. Some good reviews will be rewarded by sellers, and the consumers may get a discount by sharing their purchase experience, which shows that

the sellers attach great importance to reviews. These real reviews also put forward new requirements for goods, and if the manufacturers and sellers can improve their goods according to these requirements, they will win more customers. Therefore, the network review information has gradually affected the decision-making of the marketing department. Therefore, it is quite necessary to do research on the public comments and reviews on the Internet.

At present, the research and analysis of healthcare service review information is little and not comprehensive in China, and has not been applied in e-commerce or marketing on Internet. The existing analysis methods are generally devoted to mining user views and forming text summaries, while there is no enough consideration on how to quantify the mining results. Content analysis is a good method to carry out quantitative analysis of qualitative problems. For this purpose, our research is carried out on the basis of mining text keywords through the acquisition and analysis of web reviews of Meinian Onehealth in China.

## **4.3 Chinese data processing and analysis**

### **4.3.1 Data Processing**

Many sentences extracted from the online comments are not standardized in grammar. Therefore, before analysis it must be processed manually, like deleting interfering words and unimportant sentences. In particular, some colloquial expressions and special sentence patterns can have an huge impact on analysis results, so for special sentences such as antisense sentence and double negative sentences, their negative words need to be distinguished, and the phrases that do not affect the sentence meaning need to be removed, making the sentence simple and clear with only basic subjects, predicates and objects. For example, the sentence "you cannot say this dress is not worth the money" can be simplified as "this dress is worth the money", for the convenience of subsequent analysis of text clustering. The network word library needs to be built, whose words can be divided into two different parts: "negative words" and "positive words". The words expressing negative mood, such as

"tragedy", "gloomy", "shh" and "bad luck", have negative and derogatory nature. When the affirmative mood words such as "woot", "Ding" and "Niu" appear in the sentence, the author's attitude is positive, and the meaning of the expression is favorable and as sentient.

Online reviews are characterized by distinct views, short space, oral language description, and freedom of expression. In addition to the characteristics above, women's reviews have some features different from those of men. According to our survey, it can be seen that women's expression of their thought is not so short and succinct as that of men, and tends to add some of views unrelated to the product. For example: "received for days already, not at home due to bossiness, comment late, so sorry." These comments are totally useless for the acquisition of information about features of product, but often appear in the female commentary information.

#### **4.3.2 Data analyzing method**

In this research, the analysis of online reviews about physical examination products by Meinian Onehealth is carried out through the software ROST of Chinese content mining (ROST-CM). ROST-CM is a content mining software developed by Professor Shenyang from Wuhan University and his team, and with the characteristics of intelligence, magnanimity and objectivity. It can make a convincing universal conclusion through the organization, identification, search and analysis of digitized materials (Liu, 2013b). This software can be used to analyze Chinese dissertation, micro-blog, chat records, e-mail, and other files in text format, and has been successfully applied in many researches, like the differentiation and analysis of the concept of forest tourism, the contrast of image of tourism spots, the behavior of network cluster and the difference of network communication (Zeng, Zheng, & Zhang, 2015). This study takes online reviews about healthcare services of Meinian Onehealth from major e-commerce platforms in China and websites of Meinian as text samples of content analysis, and makes quantitative and qualitative analysis through ROST-CM. The interface of ROST-CM is as illustrated in Figure 4-2.

Functions of ROST-CM mainly include word segmentation, letter frequency statistics, word frequency statistics, clustering, classification, sentiment analysis, co-occurrence analysis,

co-citation analysis, dependence analysis, semantic network, social network and co-occurrence matrix analysis (Liu, 2013b). In our research, reviews on physical examination services of Meinian Onehealth are mainly analyzed through word segmentation, word frequency statistics, social network and co-occurrence matrix.

Figure 4-2 Interface of ROST-CM



#### 4.4 Brief summary

In this Chapter, the concept, procedure and characteristics of content analysis are introduced systemically in this chapter. As a qualitative research method based on quantitative analysis, content analysis can acquire effective information quickly through analyzing textual content. The resource of textual content in this analysis will mainly come from online reviews about healthcare services of Meinian Onehealth from major e-commerce platforms in China and websites of Meinian. At last, ROST, the Chinese content mining software, is introduced with its main functions introduced in detail.

[This page is deliberately left blank.]

## **Chapter 5: Content Analysis on the Online Review of Products of Meinian Onehealth**

In this chapter, in order to explore consumer experience and satisfaction service provided by private health management enterprises in China, and obtain the main factors that attract consumers, the online reviews about the physical examination products of Meinian Onehealth is analyzed by content analysis method.

### **5.1 Data collection**

To obtain the critical factors influencing consumer experience and satisfaction, online reviews of health management service products provided by Meinian Onehealth will be analyzed through the method of content analysis by the software ROST-CM in this section. This service provided by Meinian Onehealth is mainly dominated by physical examination, and it is being available on many online platforms and off-line stores. The online review samples in this research are chosen from the online reviews of physical examination products on Taobao and Jingdong, two biggest e-commerce platforms in China. Customers on these two platforms from all parts of China are served in Meinian Onehealth in different regions. Therefore, the analysis of reviews on these two platforms is not specifically about one particular branch center, but a general analysis about all centers. When making online reviews, customers do an overall star rating. The quantitative ratings include the following categories: 1 = terrible, 2 = poor, 3 = average, 4 = very good and 5 = excellent. 5 stars is the highest rating, which means the customers think the product is excellent in general, and they have a satisfying experience. With the decrease of stars, customers' satisfaction gradually decreases, and one star is the lowest rating, indicating that the customers are quite dissatisfied with the product and their experience t is quite unpleasant. After the star rating, customers can

comment on the product in detail, like the process of physical examination, the professional level of physicians, the service attitude of staff, and the center environment.

For the purposes of this research, the methodology was developed in three phases. First, the goal and scope of the analysis were defined in order to identify consumer satisfaction key attributes more clearly. The defined scope involved only the content-based analysis of physical examination procedures. Second, the data were collected to identify the most significant Web page related to physical examination service. Last, the data were analyzed using a mixed-method approach based on Rost-CM's tools, combining quantitative and qualitative data analysis.

There are 954 and 1363 reviews about the physical examination service sold by Meinian Onehealth on Taobao and Jingdong respectively, and their star ratings are 4.7 and 4.5 stars according to the statistics. In all, the total texts of the reviews added up to 97,827 words. The reviews included were posted from January until December 2017, and each review was collected and stored in an Excel document. For each review, the following variables were available: the title, review, quantitative rating and date and month of the post. In order to improve the quality of review analysis, only reviews whose content is more than one line are selected as the analysis samples. 500 positive reviews and 300 negative reviews are selected. Then, samples are input into the ROST-CM content analysis tool, and the main influencing factors of customers' reviews are analyzed. This study mainly focuses on the word frequency and semantic network analysis of online reviews.

## **5.2 Analysis of positive online reviews of physical examination service**

### **5.2.1 Word frequency analysis**

Copy the comment samples to the text document. Firstly, carry on the segmentation, then analyze the word frequency of the post-segmenting document. Exclude some words which has less relationship with research purposes, then conduct a merge to the words which has similar meanings. In that way, the high-frequency words and their frequency could be acquired. More specifically, meaningless or unrelated words or sentences (e.g., “ok” “well”



“often”) were deleted. In addition, some words with similar meanings (e.g., “clean” and “tidy”, “cheap” and “inexpensive”, “bargain” and “cost effective”) were categorized into one word. Then text of the processed reviews is input into the ROST-CM software. After word segmentation and frequency analysis of key words the word frequency of two units are acquired. Finally, 30 key words with the highest frequency are selected out for further analysis, as shown in Table 5-1.

Table 5-1 Key Words with the Highest Frequency in Positive Reviews

NO.	Key words	Frequency	NO.	Key words	Frequency
1	service	128	16	time	28
2	check	74	17	breakfast	27
3	attitude	57	18	hospital	25
4	report	51	19	queue	25
5	customers	45	20	experience	24
6	doctor	41	21	suggest	23
7	staff	39	22	nurse	22
8	efficient	38	23	smoothly	22
9	convenient	35	24	reception	23
10	environment	33	25	online	18
11	items	32	26	enthusiastic	21
12	appointment	31	27	comprehensive	19
13	satisfied	31	28	clean	15
14	inexpensive	29	29	problem	20
15	patient	28	30	helpful	13

From Table 5-1, In words with practical evaluation significance, "service" has the highest frequency (128). In positive reviews, customers often make a general evaluation of service, such as "good service", “satisfactory service”, or “excellent service”, etc. In addition, they will also review more specifically, such as “service of the doctors and the nurses are

good” or “staff’s service is good”. The high frequency of “service” indicates that, as the most basic and important evaluation index, service is highly valued by the customers. The frequency of "check" is 74 times, and descriptions in positive reviews are usually something like: “the checks are very comprehensive”, “the doctors check me very closely”, “results of the check are satisfying”, and so on. Check, as a most important indicator of professional skills, must be approved by costumers in order to obtain their positive reviews.

The frequency of "attitude" following "service" and "check" is 57. Attitude is usually taken as a supplement to service evaluation, indicating that the attitude of doctors or staff will play a decisive role of good reviews. The frequency of "report" is also quite high with 51. The most direct perception of costumers’ physical examination report is whether the report is printed fast or not, while the quality of results in the report is difficult to identify. Usually, the faster the physical report is printed, the more customers are satisfied. Other words with high frequency are "customer", "doctor", "staff", "efficient", "convenient" and so on. According to the reviews, many people will complain that there are too many customers waiting for the examination, and they have to queue up, so "customers" is a negative factor. But in the overall evaluation, despite the complaints, most of them will not directly give the negative reviews because of it, but only suggest that measures about reasonable arrangement of physical examination and division of labor should be taken to reduce their waiting time. Besides, clean and tidy environment, abundant and comprehensive examination items, and smooth appointment process are also very important factors for the customers to make good comments.

### **5.2.2 Semantic network analysis**

Taking high frequency words as nodes, and the frequency of high frequency words combination represents the relationship between nodes, Semantic network analysis is a method to analyze the semantic of the combination of high frequency words in the text, by constructing a semantic network directed graph (Woelfel & Stoyanoff, 1993). Semantic network analysis is an effective method of text semantic analysis by extracting and analyzing the connection between high frequency words to build up net diagram and reflect the

consumer's mental mood map (Doerfel & Barnett, 1999). It can make up for the limitation of frequency analysis that only represent word frequency and ignore the semantic information between words in text.

For the determination of high frequency nouns, the semantic social network diagram could be used to determine the core high frequency words which are most associated with other words, and then the core high-frequency words which can be classified as categories could be found out. Through semantic network analysis of ROST-CM software, the correlations between key words in the online positive reviews can be obtained, and semantic network map can be plotted to figuratively illustrate the relevance and analyze the importance of each key word. On this map, the more words in correlation with one word there are and the higher the word frequency is, the more important the word is. According to the previous analysis, the term "physical examination" has the highest frequency but no evaluation significance, so it will be deleted in the map of semantic network in order to exclude unnecessary interference and establish the semantic network of the keywords only with evaluation significance, analyzing the importance of each word. After removing the meaningless and unimportant correlations, the semantic network map can be shown in Figure 5-1. The relationships between these terms are explored. The density of lines in the diagram represents the co-occurrence frequency between terms. The more dense the lines, the higher co-occurrence frequency is, the closer the relationship of customer perception between these terms is, the thinner the lines, the lower co-occurrence frequency is, the alienated the relationship of customer perception between these terms is (Cheng, Sui & Cheng, 2014). The square represents the high frequency word node. The larger the node, the greater the node's function in the network.

It can be seen from the map that "service" is the central node of the whole semantic network, and its connection with the other words is the most extensive, which means that the factors that customers concern about most when giving positive online reviews is the service they experienced during the whole process, including consulting before examination, appointment, serving and consulting after examination. "Check", "doctor", "environment", "consultation", "time" and "report" are also widely connected with other words, indicating that consumers attach great importance to the efficiency of inspection, the professional level

of doctors, the environment of physical examination center, and the printing speed of reports, and these factors are also the main basis for consumers to judge whether their experience are satisfactory.

In addition, "items", "attitude" and "appointment" also have relatively more associations with some other words, indicating that consumers are very concerned about examination items, the attitude of the staff, and the process of appointment. On this map, there are also some adjectives that often appear in online reviews such as "patient", "convenient" and "efficient", which are used to express the satisfaction of the customers. The correlation frequency between some of the important key words are listed in Table5-2.

### **5.3 Analysis of negative reviews**

#### **5.3.1 Word frequency analysis**

After pre-process, the text document of these reviews is input into the ROST-CM software. Then, through word segmentation and frequency statistics of key words, 30 key words with the highest frequency are listed in Table 5-3.

In words with evaluation significance, the word with highest frequency is "attitude", different from "service" in the positive reviews, which ranks second in negative reviews. In the comments about "item", there are many complaints that the physical examination items are not comprehensive or the arrangement is unreasonable. Following "item", the word "check" has the fourth highest frequency, which is often referred as being perfunctory, incomplete or unprofessional. Both "item" and "check" are used commonly to describe technical or professional level of the company, indicating that low technical level in physical examination is a more important factor than service when a customer is giving a bad review. In addition, "staff", "attitude", "doctor", "appointment" also have high frequency.



Table 5-3 Key Words with the Highest Frequency in Negative Reviews

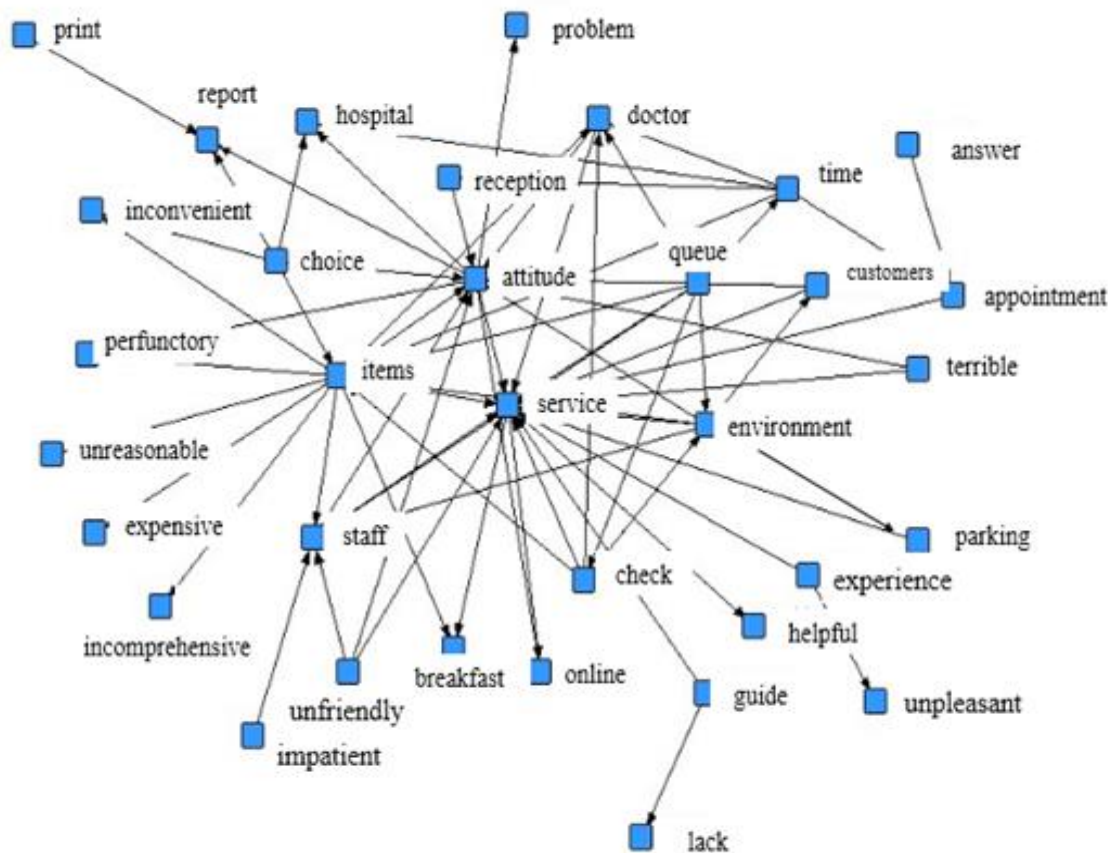
NO.	Key words	Frequency	NO.	Key words	Frequency
1	attitude	89	16	nurse	29
2	service	84	17	breakfast	28
3	item	75	18	guidance	27
4	staff	67	19	terrible	27
5	check	64	20	environment	25
6	doctor	59	21	problem	23
7	appointment	39	22	parking	22
8	report	37	23	noisy	22
9	hospital	35	24	comprehensive	20
10	reception	34	25	online	22
11	experience	34	26	unprofessional	19
12	customer	33	27	perfunctory	18
13	expensive	32	28	consultation	18
14	time	30	29	queue	17
15	inconvenient	30	30	worth	15

### 5.3.2 Semantic network analysis

Through semantic network analysis by ROST-CM software, the map of correlations between key words in the online negative reviews can be obtained. After removing the meaningless and unimportant correlations, the semantic network map is shown in Figure 5-2.

Compared with that of positive reviews, the semantic network of negative reviews is more complicated. There are no absolute central points but four central nodes: "Items", "check", "service", and "attitude", and some other nodes are also intersected. The main reason is that when customers are giving negative reviews, they tend to comment more specifically, mentioning more influential factors, which leads to more connections between various factors.

Figure 5-2 Semantic Network of Negative Reviews



From this network, "service", "check", "attitude", "doctor" and "items" are the most important factors. In practical, the attitude of doctors or staff is also regarded as part of service, so bad service is the most important reason why consumers give bad reviews. In terms of the words related with service, people use "terrible", "unfriendly" and "impatient" to express their dissatisfaction. As for "items", both frequency and connections in negative reviews are more than those in positive reviews, indicating that "items" is a factor that can easily arise customers' dissatisfaction, whose connected words are mainly "incomprehensive", "perfunctory", and "unreasonable", which indicates that customers are more concerned about whether the physical examination items are comprehensive and whether the check of items is perfunctory or the arrangement of the items is reasonable, and these are the main reasons for them to make the evaluation. Some other words with relatively more connection are "time", "appointment", "experience" and "report", and their related complaints mainly include long

examination time, bad appointment service, slow report printing and so on, and these unpleasant experience cause customers to give a negative online review.

## 5.4 Discussion

Petrick (2002) divided perceived value into five dimensions: quality, emotional response, currency price, behavioral price and reputation. Quality refers to the customer's perception of the nature of the product or service. Emotional response means the customer's psychologically intuitive feelings about all aspects of the trading process. Currency price refers to the customer's currency pay for product or service. Behavioral price means all other payments made by customers in addition to monetary expenditure during the transaction process. Reputation refers to the degree of customer self-realization after transaction process. Through the keyword frequency and network, the main factors focused by customers in the evaluation of health management products based on physical examination were analyzed above. In order to analyze the dimension of costumers' satisfactory, several categories need to be determined specifically. Therefore, among the high frequency terms, the most frequently used nouns should be found, analyzed and classified. In general, the related high-frequency words can be divided into six themes: service, technology, environment, price, procedure and Consultation. Some words can belong to two or three themes at the same time. For example, people describe the doctor's service attitude in their reviews, and they can also describe the level of doctors' professional skills, therefore, the word "doctor" belongs to the themes of both service and technology. People like to compare the private health manage company with public hospitals in all aspects of service, technology, environment and price, so the word "hospital" belongs to all the four themes. According to meaning and relevance of key words, the six themes include the factors respectively as shown in Table 5-4.

From the table, the amount of keywords contained in the theme of service is the most, followed by that in the theme of technology, while those in the themes of procedure and price are relatively less. Based on the invisible service that the customer feels when receiving the service, the theme index of the 'service' mainly examines service attitude and whether the service has reached the customer's expectation. The theme index of the 'environment' index



mainly highlights the tangible service of the physical examination center, which is the environment, personnel, equipment and other related indicators that the customer can feel when receiving the service in the physical examination center. Index of this kind mainly includes the physical feelings that the physical examination center can give the consumer as a service provider. The theme index of the ‘technology’ is an important indicator for measuring the medical technology level of the physical examination center. It is of great significance for judging the quality of service. The index includes both the technical level of doctors and the advanced hardware equipment. The theme index of the ‘consultation’ is to examine the responsiveness of the doctor to customers’ problems and requires, whether the response is timely, and the quality of the response.

The consumer experience is divided into five aspects: the experience of comfort treatment, the experience of reasonable waiting time, the experience of reasonable medical expenses, the experience of friendly service attitude, and the experience of standardized treatment process. These five aspects also constitute the former dependent variable for consumer satisfaction evaluation. In Table 5-5, the quotations demonstrate how customers assign meaning to their physical examination service experiences. Through consumers' direct feelings of influencing factors such as service attitude, medical quality, environment, and physical examination processes, found out the main contact points of for each stage of the health checkup service, and determined the evaluation factors for consumer satisfaction in the services. Combining the evaluation opinions and literature research of the above-mentioned consumers on the physical examination service, we summarized the index framework of the factors affecting the customer satisfaction. The framework is divided into two levels. The main factors affecting customer satisfaction are designed as first-level indicators, namely, service attitude, medical technology, environment of physical examination center, examination charges, service procedure, and health education guidance. These indicators are further developed to form more detailed second-level indicators, as shown in Table 5-6. The second-level indicators are directly measurable and can be translated into specific questions in the questionnaire of customer satisfaction. For example, in order to measure customer satisfaction, we can design indicators from the aspects of service attitudes of doctors and

medical staff, the availability of medical equipment, and the comfort of physical examination centers.

#### **5.4.1 Service**

Service, as the most focused factor, can be divided into three aspects: service before physical examination (such as online purchase consulting, appointment, reception and examination guide), service at physical examination (including the attitude patience, enthusiasm of doctors and nurse, and convenience provided by them); service after physical examination (mainly including health consulting service after physical examination). Most of the customers evaluated the physical examination products soon after the completion of physical examination, so the immediacy of reviews leads to less mention of long-term health consulting service after physical examination in the costumers' online comments. Besides, it also reflects the problem of laying emphasis on physical examination while ignoring systematical planned management in China. Brady and Cronin (2001) define customer service orientation as the willingness to adjust service delivery to meet customers' needs and preferences. For example, customers who perceive a higher level of service quality will show greater satisfaction with services, as well as a higher level of loyalty to clinic and/or hospitals. And it is also true in the case of private health management incorporation. Perceived service quality has been found to be a critical component that can significantly influence the perceived value of physical examination and treatment. Service quality is also a major predictor of long-term growth and profitability, so service providers must recognize the harm caused by low standards of integrity and make an effort to build consumer trust (Gong et al., 2015), particularly in healthcare service contexts.

The support and communication of the doctor and medical staff and the relationship with the patient have an important influence on the quality of service and satisfaction of the medical institutions. The patients have high expectations for the quality and performance of the attending doctors and medical personnel. Williams, Weinman and Dale (1998) summed up the relationship between doctor-patient communication and outpatient satisfaction, indicating that a doctor's cold or tense voice and intonation have a negative impact on patient satisfaction. However, a calm tone combined with a positive diagnostic language will improve

patient satisfaction; the friendly and polite behavior, socialize phraseology, inspiring behavior, empathy, and patient's confidence in doctors and preference on doctors, are considered as ways to improve patient satisfaction.

Medical staffs contacted by customers include physicians, receptionists, referral staff, chemists and cleaners. The interaction between customers and medical staff is an important part of receiving medical services. The communication between physicians and customers is directly related to the customer satisfaction, so it should run through the whole process of physical examination. In general, customers have strong psychological dependence on medical staff, in great need of their care and support. The dominant part of service is employees of the incorporation, so in the theme of service in Table 5-4, the most relevant words are doctor, staff and attitude, underling the importance of the human factor and indicating that the service attitude of doctors and staff is the most concerned factor for customers. According to Zhang and Mao (2012), employees have the ability to shape customers' perceptions of clinics or treatments, and customers can develop an attachment to clinics through the human factor of these facilities' staff. Trust in staff and the facilities can have a significant influence in customer's intentions to revisit there.

#### **5.4.2 Technology**

The theme of technology, known as the quality of diagnosis and treatment, mainly includes these problems: whether the check efficiency is high, whether the check is detailed and smooth, whether the physical examination items are comprehensive, whether the doctor's professional level is high, whether the inspection equipment is advanced and whether the report is printed quickly. Among the relevant factors, "items" and "efficient" are mentioned more frequently, especially in bad reviews, the frequency of "items" is lower than that of "attitude", while comments about doctors' professional skills are relatively few. It is mainly because that the customers are more sensitive to the item number and check efficiency, and they can have a direct and clear perception about these aspects, while the doctors' professional and technological level is quite difficult to distinguish directly for customers without medical expertise, so they cannot confirm the check quality. Therefore, when making overall reviews, customers often evaluate their experience of physical examination from the

superficial aspects of examination item numbers, check efficiency and services, while ignore the most essential aspects of check quality.

In addition, advanced equipment is also an aspect that can be easily perceived by the customer, though it is not frequently mentioned in the review. With the rapid progress of science and technology, many new technologies have been applied in health management. For example, automatic control technology, microelectronic technology, nuclear technology, communication technology, and molecular biology have been integrated organically with medical technology, resulting in the successful birth of minimally invasive treatment, laser therapy, gene therapy and remote treatment. Many advanced equipment of inspection and treatment emerge in an endless stream in the medical field, changing and improving diagnosis mode continuously.

The development of health management industry is closely related with its technology level. For health management incorporation, who masters the most advanced methods of diagnosis and treatment, who will have advantages in market competition. As a highlight that can be easily perceived, the introduction of new technology and new equipment can promote the continuous development of new medical items in health management, and attract more customers.

Table 5-4 Six Themes and Concept Words

Themes	Concept words
Service	service, attitude, doctor, convenient, patient, nurse, reception, enthusiastic, satisfactory,
Technology	check, report, doctor, items, comprehensive, smooth, satisfactory, suggest, profession, equipment,
environment	clean, customers, parking, terrible, breakfast, noisy, hospital, convenient,
price procedure consultation	inexpensive, expensive, items, worth, queue, efficient, time, smooth, online, appointment, consultation, report, helpful, suggest, doctor, hospital, guidance,

Table 5-5 Qualitative Content Analysis

theme	concept words	comments
Service	attitude, doctor, staff, nurse, patient, customers enthusiastic, response	<p>The customer service is quite good. Although the appointment is full, my appointment is adjusted to Saturday in accordance with my free time.</p> <p>The service is not worth the price it costs, so I think I will not come again, and do not recommend this service.</p> <p>All the staff in the examination center are very good, and doctors are very enthusiastic and patient in explaining each question in detail.</p> <p>The responsible staff will send out short message to remind me of the physical examination in advance.</p>
Technology	check, report, smoothly, comprehensive experience, item, hospital	<p>doctors and nurses are very professional, the examination are thorough and detailed, and check items are comprehensive.</p> <p>There are special professional doctors for the interpretation of examination report. It is a very satisfactory experience.</p>
Environment	clean, satisfied, comfortable, hospital breakfast, convenient	<p>The guide outside of the room is very kind and professional, providing a lot of help.</p> <p>Clear guidance goes through the whole process from the first step to the last step. The screen at the door of the room will conveniently call customer number for their reminder.</p>
price	inexpensive, worth	<p>The service is just so-so, and definitely not worth 2000yuan.</p> <p>There are only a few items, which seem to be merely simple and routine checks.</p>
procedure	time, online, efficient, queue, reception, online, appointment	<p>if you are going to have a physical examination, it is recommended to get the center at time when there are not too many people waiting and when doctors have more abundant time.</p> <p>There are a lot of people waiting for check, so that each item turns out to be relatively hasty.</p> <p>Online booking and reservation is simple and convenient.</p>
consultation	doctor, patient, suggest problem, helpful, doctor	<p>Doctors give helpful advice to my questions.</p> <p>after the examination, they called for information feedback.</p>

Table 5-6 Factors Affecting Customer Satisfaction in Physical Examination

Factors	Definition	Evaluation
Service	The degree of friendliness of medical staff in the physical examination	<p>Service attitude in appointment and guidance</p> <p>Service attitude of physicians</p> <p>Service attitude of medical staff</p> <p>Service attitude when conflicts happen and solutions as well as reasonable results are required</p> <p>Listen to customers' requirements</p> <p>The response of doctors and medical staff</p>
Technology	The proficiency of operation of medical staff and standard degree of doctors' consultation	<p>Medical techniques of physicians</p> <p>Medical techniques of medical staff</p> <p>Well-equipped medical equipment</p> <p>The accuracy of the diagnosis result of medical examination</p>
Environment	Customers' satisfaction of environment and facilities in medical examination center	<p>Comfortable environment of medical examination center</p> <p>Well-equipped facilities for waiting patients</p> <p>Other auxiliary services</p> <p>Check of reasonable room layout and clear logo</p> <p>Breakfast service and quality of meals</p> <p>Clean and private rooms</p>

		Clean toilets
Price	Charging for various services in medical examination center	Reasonable charges Transparency of fees charging
	The degree of reasonability of customers'	The arrangement of health examination items
Procedure	waiting time for health examination	Reasonable waiting time Convenient booking, inspection and announcement services
	The reasonability of health education and	Detailed explanation of the medical examination report
Consultation	post-inspection health management plan and the standard degree of medical examination report explanation	Detailed explanation of patients' questions Post-inspection health management counseling Protection for customer privacy

---

### 5.4.3 Environment

The operation of medical institutions is inseparable from environmental facilities, which affect customer satisfaction (Thomas et al ,1995). Environmental considerations include not only the cleanliness and hygiene of medical institutions, but also the amenity related to noise degree, congestion and air quality. According to a study in a developing country, patients attached great importance to the hospital environment in the interview. Compared with the response and communication of the medical staff, the comfort of the environment has more obvious influence on patients' satisfaction, which means that the comfort of the medical environment can effectively improve the patient's satisfaction (Andaleeb, 2001).

In the theme of environment, the most frequently mentioned is whether the physical examination center is clean and tidy. In addition, many people are concerned about whether there is a parking lot in the examination center. Physical examination centers usually provide breakfast to the customers coming for physical examination, so the quality of breakfast, which can be easily perceived by customers, also becomes an important evaluation factor, mentioned frequently in the reviews.

Through comparison, comments about environment is relatively less in the reviews, so it can be deduced that the influence of environment of the physical examination center on customers' purchase decision is not as much as important as the service and technology. Because in recent years, with the improvement of living conditions, customers' needs are promoted to high levels, the environment of most physical examination centers has been greatly improved in order to meet their demands. For example, corridors and toilets are always kept clean and tidy, and there are certain green belts around the rooms. Having adapted to the good environment, costumers will not be sensitive to it usually.

At present, some hospitals began to change the color of the wall of each floor to adjust the mood of consumers with different ages and diseases. This strategy can also be applied to physical examination center. From the aspects of color, sound and taste, physical examination center can create a unique environment so as to leave a good impression on consumers.



#### **5.4.4 Price**

In the theme of price, the most often mentioned key word is "inexpensive" or "expensive", indicating that people pay much attention to the price of physical examination product. For health management facilities that have already established a reputation for high quality services, their competitiveness thus relies on the provision of these service at a significant lower prices. Therefore, the prices of the physical examination packages are usually compared with the those of public hospitals in the customers' reviews to express their subjective value assessment of the healthcare service. Usually, the price of the physical examination packages of private facilities is higher than those of public hospitals, but the customers who give positive reviews think it is inexpensive, while who give negative reviews commonly think it is expensive and undeserving. There is an inevitable connection between perceived value and customer satisfaction. Mcdougall and Levesque (2000), in the study of the typical service industry, further demonstrated the important effect of customer value in business management, and a conclusion was drawn that perceived value and customer satisfaction are positive correlation. In order to make people satisfied, the products should make customers feel that it is worth the price. However, due to hierarchy of people's needs, different people will have diverse ideas about the price of the same product, so difference in people's needs should be considered in the marketing.

#### **5.4.5 Procedure**

The service process has played a role in bonding customers, doctors, medical personnel, payment, inspection and medical facilities. The smooth and efficient process reflects the overall coordination ability of the physical examination center. Research on medical process has aroused wide interest among scholars. Patient waiting time is considered to be an important factor influencing satisfaction (Boudreaux & Ohea, 2004). Some scholars have carried out process improvement for university hospitals, which has reduced patient waiting time and improved patient satisfaction. It is worth mentioning that, it is the patient's perceived waiting time that has great influence on patient's satisfaction, rather than the actual waiting time. If the waiting time is greater than the patient's expectation, the patient's satisfaction is

low, and the patient's satisfaction is higher if the waiting time is less than the patient's expectation. The actual waiting time of patients has no significant effect on patient satisfaction (Thompson et al., 1996) .

In terms of the theme of the process, keywords with the most frequency are "efficiency", "time", "queuing", and "smoothness", indicating that people attach great importance to the waiting time. Bad reviews often relate to the unpleasant number of customers waiting in line for physical examinations at the physical examination center. It may subjectively blame on the fact that physical examinations are mostly conducted in the morning, resulting in congestion for a period of time; objectively, due to the individual difference, the time for each examination is incalculable, so some patients have to wait too long. In addition, customers' satisfaction has correlation with their expectations, hoping to be served in an ideal way at each stage, including short waiting time, careful checking, and privacy protection (Zhang & Wang, 2007), which also leads to their dissatisfaction.

Optimizing the physical examination process and shortening the queued waiting time is the key to improving the satisfaction of physical examination. The efficient physical examination process should provide customers with one-stop service, integrating related services, offering specific guidance and optimization to the physical examination process, reducing tedious steps, and making examinations quick and effective. In addition, effective guidance and reasonable shunting are of utmost importance. Supervision and management of physical examination items requiring queuing up should be conducted to prevent delays due to confusion. Try to meet the needs of customers when they are making a physical examination appointment. In the inspection departments for important and complex body part, all guide nurses should provide shunts and counseling services to inform guests of unchecked items so that the guests can receive physical examination in departments which are relatively uncrowded (Guo, 2013).

#### **5.4.6 Consultation**

In terms of counseling, keywords with the most frequencies are "consultation", "helpful" and "report", showing that people attach great importance to interpretation of physical examinations report and health education. In negative reviews, insufficient guidance for

customer in the center is often mentioned. It may subjectively blame on the fact that there are too many customers and too few staffs and no time for health education or bad timing for it, that some staffs lack theoretical knowledge, that some health education is not deep enough, that some customers are not good learners, and that staffs can't offer individualized education according to the different needs of customers (Ye, 2014).

The physical state and health status of a person are not immutable but changing, and the health risk factors in different stages of life are also not the same. The health risk factors change with various factors such as living environment, living habits and age. Therefore, the health management plan should also be dynamic, adjusting according to changes in health status, so as to achieve real-time monitoring and maintenance of health, preventing health risk factors from quantitative change to qualitative change.

It is of great significance to actively carry out health education for the physical examination population and improve the understanding of the importance of health management in preventing and treating diseases (Li, Cheng, & Zhong, 2013). Wang, Li, and Luo (2010) found the limitations and inadequacy of physical examination. It was suggested that the promotion from physical examination to health management should be completed as soon as possible. Therefore, health education counseling is always in place throughout the process. It is necessary to offer a full health education for customers before, during, and after the inspection. Education before examination is supposed to enable customers to understand the process and precautions; in the physical examination process, staffs should grasp the good timing of queuing to instill medical knowledge to customers; education after the examination should be based on the results of their examination, and the chief physicians should provide personalized health education prescriptions which are specifically explained by physicians when customers are receiving their reports, enhancing both the knowledge level and satisfaction of customers (Zhang, Fan, & Zhou, 2009). In health interventions, combined with individual health risk factors, a systematic and personalized health management plan including health education, lifestyle guidance, and medical advice is proposed, and the health guidance program is regularly adjusted based on the changes in personal health database data (Li et al., 2016).

## **5.5 Marketing strategy**

Nowadays, many health management agencies still use marketing methods such as traditional advertising and preferential promotions. However, the primary traditional marketing methods, such as price fixing, selling services and providing rebates, are outdated in the new era of marketing environment. Based on the above analysis, some new marketing strategies can be put forward for Meinian Onehealth to achieve higher market sales, enhance awareness of brand and improve product market share.

### **5.5.1 Quality strategy**

According to the content analysis of online review, service is the most important theme from the perspective of costumers. In competition, service quality factors have gradually taken the place of product price, and the world economy has entered the era of service economy (Liu, 2017). In fact, a prior survey from Beach and Burns (1995) has confirmed that repeated customers come back for service, not price. Nowadays, with gaps between different companies narrowed in the aspects of equipment, experts and medical technology, service has become the most competitive factor in health management industry.

Firstly, Meinian Onehealth should introduce the concept of star-level service into the new physical examination services, so that all personnel fully can realize that in the fierce competition in the market, the quality of their service is closely connected with the survival and development of the center and is related to the immediate interests of every staff. The company should establish service marketing agencies and improve the operation, as well as implement a comprehensive responsibility system, service rules and regulations and service commitment system (Fang & Li, 2006). These systems should define the employees clear job responsibilities, scientifically regulate the behavior of them, and effectively control the quality of services, so as to provide better services for consumers. The company should correlate the service quality with individual performance appraisal, so that everyone can establish a new concept of “customer first” and pay attention to meet the needs of customers. It can give full play to the enthusiasm of the employees, and offer friendly healthcare service,

making customers not only enjoy high-quality services, but also spiritual enjoyment and emotional communication (Zhu, Ceng, & Ou, 2009). The environment of the center is the most intuitive display of brand, which leave the first important impression on customers. The center should try it best to provide customers with a comfortable, clean and warm.

### **5.5.2 Brand image strategy**

As the foundation of a company, a good brand image can win customers' trust and loyalty for the company and create huge profits for the company to a large extent. But trying to make a good brand is indeed a difficult challenge. The brand image of the Meinian Onehealth relies much on its environment and a large amount of investment in advertising, which lacks the in-depth characteristics of professional medical and health services, indicating that it is irreplaceable. Meinian Onehealth needs to create a new brand image with depth, and turn its good-quality services into its "brand" to enhance the value-added features of a good brand image. Companies should integrate high-quality services into their own distinctive brands to win customers' favor. Companies with "quality service" brand will win more recognition and trust from customers, which will provide a strong competitive advantage for the company's development.

By analysis, one of the reasons why consumers prefer a public hospital rather than a physical examination center now is that private centers are more professional. While advertising its advanced medical testing equipment and the good cost-effectiveness of package projects, Meinian Onehealth should advertise more about the professionalism of its doctors in the future. The core needs of consumers for physical examinations are the correct inspection results. A failure to guarantee the correctness of the test results will lead to the loss of consumers' trust. Meinian Onehealth should receive more practice from public hospitals, cultivate high-quality medical work teams, establish employees' brands, and give full play to people's role in service.

### **5.5.3 Competing Strategy**

In the fierce competition of physical examination services in China, the company should open up new markets and further increase the market coverage; it should segment the market

according to characteristics of different groups, and develop different strategies for mass customers and core customers.

### **5.5.3.1 Strategy to expand market demand**

China is a vast country, and it is divided into urban and rural areas. This distinct area separation has led to the Chinese government adoption of a unique household registration system (Liu, 2009). Significantly, a different government financing system is used in rural and urban centers. As a result, public healthcare in the rural areas is significantly underfunded by the state government. Most of the country's resources are directed towards enhancing health systems in the urban centers.

Due to factors such as the local economy, per capita income level, industrial structure characteristics, residents' health concepts, consumption habits, and regional medical resource supply, the physical examination centers are mainly distributed in the first and second tier cities. However, with the improvement of the quality of medical services in China, the regionalization of the market will be gradually diluted (Meinian Onehealth, Inc, 2017). Meinian Onehealth should speed up its business expansion to small and medium-sized cities while maintaining the existing business layout in large and medium-sized cities. In these cities, consumers have fewer access to medical information. With the advancement of the national urban and rural integrated development plan, the gap of living standards in these two areas will gradually narrow, with further increase in health awareness, and greater demand for health check services.

### **5.5.3.2 Market segmentation strategy**

The health service market in China can be further divided into mass market, mid-end market and high-end market based on consumer's consumption level and demand. The mass market is aimed at most consumers. The mid-end market is aimed at customers with certain spending power and willingness to take the initiative to go through health check; the high-end market is aimed at customers with higher spending power and higher require for quality and experience of health check services.

### **5.5.3.3 Internet marketing strategy**

At present, “Internet + Medical” has become the latest application of the Internet in the medical industry and represents a new direction for the development of the medical industry. The “Internet + Health” management mode is an application of a series of advanced information technology tools such as mobile Internet, Internet of Things, smart sensor, cloud computing, and big data in the fields of health information collection, health risk assessment, health interventions and dynamic tracking and feedback. It aims to optimize service processes, make the crowd actively rather than passively participate in self-health management, achieving comprehensive, systematic, personalized and multi-level health management services like prevention and health care, physical examination, disease treatment, lifestyle consultation, and psychological counseling guidance (Li et al., 2016).

Through the "Internet +" service management mode, the forms of health management are more diversified, involving health services like online health consultation, health education, real-time health monitoring, electronic health records establishment, disease risk assessment, and tele-medicine (Li et al., 2016). Individuals can monitor and collect consecutive physical and psychological health data such as dietary status, exercise status, sleeping status, and psychological performance through real-time wear monitoring devices and mobile terminal devices, so as to ensure monitoring normalization and continuous dynamics.

In addition, online shopping has become very popular in China. Various types of e-commerce platforms have become the main shopping platform for consumers, especially for the young generation (Sun & Liu, 2014). With the deep integration of the health inspection service industry and the Internet, Meinian Onehealth can utilize Internet to increase its market coverage in marketing, channel, and operating and products, expand channels and business share for Internet sales, further strengthen the online marketing of physical examination package products in Taobao, Tmall, Jingdong and other online shopping platforms, and design more product in line with the characteristics of young customers.

#### **5.5.4 Customer relationship strategy**

In the theory of customer value management, the customer value can be developed from three aspects: existing value, potential value and the impact value, that is to say, the customers' values are different. According to different customer value stages, adopting targeted methods of customer relationship management can help to obtain their loyalty and retention.

In the future, Meinian Onehealth should dig deeper into the application and value of health big data, further improve the relationship management, and target resources on the most valuable customers. Meinian Onehealth should be committed to providing all-aspect health management and extended medical services to mid- and high-end companies and individual customers, maintain good relationships, increase their loyalty, and reduce the possibility of their moving to other centers. From the analysis in the fourth chapter, we can see that negative emotions mainly come from long waiting time, lack of post-examination counseling, and poor physical examination experience. The company should strengthen the health guidance after the physical examination, establish an electronic database for customers' medical record, follow up customer's health status and provide a dynamic health management plan. The company should shape the good image of customer-concerning by improving the satisfaction of the post-inspection service. In addition, feedback mechanisms should be established to collect customers' opinions and improve their satisfaction and loyalty.

When setting up a physical examination items, the physical examination center needs to take into account the needs of different levels of people. In order to prevent physical exams from unnecessary inspections, service should precede the physical examination, when the staff understands the inspection items customers had received last time and the results of the examination by communication, and then makes relevant medical examination plans for the physical, mental, and social adaptations. With the development of medical technology, more people want to monitor the detailed status of their bodies during physical examination for early intervention. In order to expand the coverage of the physical examination, targeted physical examination services can be conducted, so that the requirements of a full range of



physical examinations are better satisfied and the health status of individuals are accurately grasped.

The follow-up service should be strengthened. After the analysis and interpretation of the physical examination report, a personalized health prescriptions can be used to make provisions on the purpose, significance, flow, and follow-up services of health checkups, and health promotion programs and chronic disease management programs can be formulated to provide a series of tracking and management services for customers (Wang, 2008), providing scientific guidance on potential risk factors and their poor lifestyle, for a better maintenance of their own health. The establishment of a new service model allows medical examiners to use telephone, fax, E-mail and other methods for consultation, complaints and requests for medical services.

### **5.5.5 Price strategy**

Wang (2011) thinks that consumers can not fully grasp the internal attributes of products due to the information asymmetry on two transaction sides, while external attributes like price and brand can help consumers identify product quality and purchase risk, and thus influencing purchase intention. On the basis of hierarchy of costumers' needs, companies should put forward corresponding price strategy:

(1) In response to the low-end consumer psychology of seeking economical and practical products, the single product pricing strategy and marked prices strategy can be carried out to highlight the convenient, fast and affordable brand image of the health management companies.

(2) In response to the Middle and high-end consumer psychology of seeking luxury and famous brand, the slow skimming pricing strategy and 'higher quality, higher price' strategy can be carried out to highlight the brand image of sustainable management.

(3) At the same time, the companies should pay close attention to the market environment and product changes of their competitors, especially the other products that can replace their present products. According to the market environment, the companies should adjust the price and product policies timely, but not more than once a year.

## 5.6 Brief summary

This chapter introduced a typical private health management incorporation in China, Meinian Onehealth, whose dominate business is physical examination. Then the main factors affecting the consumer experience and satisfaction in its services are researched through content analysis of online reviews, and the positive and negative reviews are analyzed respectively from the aspect of word frequency and semantic network.

Its influencing factors can be divided into six themes: service, technology, environment, price, procedure and consultation. In terms of service, the important factor is human, and the attitude of doctors and employees is particularly important to customer satisfaction. In terms of technology, advanced physical examination equipment and the professional level of medical staff are perceivable benefits, which are important factors influencing consumers' evaluation. The reason that influence of environment of the physical examination center on customers' review is not as much as important as the service and technology is due to that the environment of most physical examination centers has been quite good, and people become insensitive to it usually. In the theme of price, customers usually use "inexpensive" or "expensive" to express their subjective value assessment of the medical service. In terms of service procedure, optimizing the physical examination process and shortening the queuing time are important factors in improving customers' satisfaction. An efficient physical examination process must provide one-stop service for customers. In terms of health consultation, strengthening health education and keeping track customers health status are also important factors in improving their satisfaction.

Based on the results of analysis, five effective marketing strategies in the health management industry is put forward, mainly including service quality strategy, brand strategy, competing strategy, relation strategy and price strategy.

[This page is deliberately left blank.]

## **Chapter 6: Conclusions and Outlook**

### **6.1 Conclusion and discussion**

The private healthcare industry in China is relatively young and still has a long way to enjoy the same maturity and success as the Chinese public healthcare enterprises. Carrying out research about private health management company in China has both theoretical and practical values.

For most private health management companies in China, figuring out what kind of factors affect customer satisfaction has become a critical concern. Therefore the purpose of this thesis is to study on the development, characteristics and situation of private health management industry in China through the methods of literature research, and research on the consumer experience and satisfaction in private health management enterprises through the method of content analysis so as to explore the question: what are the main dimensions of the health care experience for customers? What are the main themes linked with their satisfaction and dissatisfaction?

In this thesis, deep analysis of consumer experience and satisfaction about physical examination services of Meinian Onehealth is performed both quantitatively and qualitatively to grasp the critical factors, and effective marketing strategies in the health management industry is put forwards. The thesis can be concluded as follows:

(1). Development of health management service industry in China is introduced systemically. The current health management service in China mainly include the physical examination, and the service aimed at preventing diseases, whose target customers are the healthy or sub-healthy groups and patients with various chronic diseases. The awakening of people's awareness of health management and the formulation of relevant national policies have promoted the rapid development of health management in China. Both strengths and weaknesses of public and private health management enterprises are summarized by comparison and analysis of private and public healthcare centers by means of SWOT.

(2). The health management service industry status in China and abroad is compared in detail in aspects of application prospect, development mode, enterprise development environment, degree of combination with medical treatment and the privacy protection environment. Due to the late start, imperfect policies and lack of health management personnel, health management business in China has a long way to go.

(3). Relevant literature review on health management is introduced, presenting extensive theoretical and practical exploration on the concept of health management and the role of health management in improving health and reducing medical expenditure carried out by scholars from all over the world. The Maslow's hierarchy of needs about the hierarchical human needs is introduced, and characteristics of consumers' needs in health management industry are analyzed, as well as their influencing factors. The concept of service marketing and its characteristics are presented with the analysis of four characteristics of health management as a typical service product. The notions of services quality and customer satisfaction in health care industry are also introduced.

(4). The method of content analysis of Chinese text is brought into the study of consumer experience and satisfaction about physical examination services in China. Its concept, procedure and characteristics are introduced systemically in this chapter. As a qualitative research method based on quantitative analysis, content analysis can acquire effective information quickly through analyzing textual content. The resource of textual content in this analysis is online review about products on shopping websites or online forum. The characteristics of reviews from three famous e-commerce websites in china are investigated. To solve the problem of randomness of on-line language, these reviews should be processed firstly, and the data processing method is introduced. Finally, the data analysis software, ROST content mining, is presented, with its functions introduced in detail.

(5). A typical private health management incorporation in China, Meinian Onehealth, is introduced whose dominate business is physical examination. The main factors define customer experience and determine their satisfaction and dissatisfaction is researched through content analysis of online reviews, and the positive and negative reviews are analyzed respectively from the aspect of word frequency and semantic network. Through word frequency analysis, the main dimensions of physical examination experience for customers

are obtained. From the positive reviews, the most important dimensions include service, check, attitude, report, price, doctor, time, efficient, and so on. From the negative reviews, the most important dimensions include items, queue, service, consultation, attitude, doctor, appointment, and so on.

Then the main factors influencing customer satisfaction and dissatisfaction are discussed through the classification of critical factors. And these main factors are divided into six themes: service, technology(medical quality), environment, procedure, consultation and price. Service and technology are more concerned by people than environment and price. In service, the dominant part is quality factors, and the service attitude of doctors and staff is most important for customers. In terms of technology, advanced physical examination equipment and the professional level of medical staff are perceivable benefits, which are important factors influencing consumers' evaluation. The reason that influence of environment of the physical examination center on customers' review is not as much as important as the service and technology is due to that the environment of most physical examination centers has been quite good, and people become insensitive to it usually. In the theme of price, customers usually use "inexpensive" or "worth" to express their subjective value assessment of the physical examination service. In terms of procedure, optimizing the physical examination process and shortening the queuing time are important factors in improving customers' satisfaction. An efficient physical examination process must provide one-stop service for customers. In terms of consultation, strengthening health education and keeping track of customers' health status are also important factors in improving their satisfaction.

(6). Based on the results of analysis, effective marketing strategies in the health management industry is put forward to enable invisible medical and follow the marketing laws to expand in a systematic manner, mainly including service quality strategy, brand strategy, competing strategy, customer relationship strategy and price strategy. Marketing strategies are varied, and not all the strategies are suitable for a particular business. The private health management enterprises need to find strategies that are suitable for themselves through analyzing their own situation and considering the impact of many factors.

## **6.2 Limitations and avenues for future research**

Due to the restriction of time and research conditions, there are many limitations in this thesis:

(1). This research about consumer experience and satisfaction of private health management service enterprise in China is only based on the analysis of one company. Therefore, for deeper and comprehensive exploration, more specific companies should be researched. Future research should expand the data collection channels and use different website samples to conduct comparative analysis.

(2). Data sample in this research is the online reviews about physical examination products, and the reviewers are different individuals who may have great differences in the way of expression. This study can only search out descriptions from these reviews, but with no reasoning analysis of the reviews themselves, while the lack of understanding about the reviewers' character, age and other factors may affect the accuracy of conclusion, leading to deviation of analysis results. To solve this problem in further research, more effective information about the reviewers should be collected, the connection between the demographic characteristics of consumers and the text content can be further explored.

(3). Although some marketing strategies have been put forward based on the results of content analysis, there is not enough discussion about the specific implementation process. Therefore, in order to promoting these marketing strategies put forward in this thesis, the actual situation of the other health management company should be researched in future study.

## Bibliography

- Andaleeb, S. S. (2001). Service quality perceptions and patient satisfaction: a study of hospitals in a developing country. *Social science & medicine*, 52(9), 1359-1370.
- Arunanondchai, B. J., & Fink, C. (2005). Trade in health services in the ASEAN region. *Health Promotion International*, 21, 59-66.
- Babiarz, K. S., Eggleston, K., Miller, G., & Zhang, Q. (2015). An exploration of China's mortality decline under Mao: A provincial analysis, 1950-80. *Population Studies: A Journal of Demography*, 69 (1), 39-56.
- Bai, S. Z. (2006). Present Situation Analysis of Health Management in China. *China Medical News*, 21 (12), 5. In Chinese.
- Bai, S. Z. (2007). Health industry and health management development in China. *Chinese Journal of Health Management*, 1 (2), 67-70. In Chinese.
- Bai, S. Z. (2008). Health management and its related industries in China: opportunities and challenges. *Chinese Journal of Health Management*, 2 (6), 329-332. In Chinese.
- Bai, S. Z., Wu, L. X., Chen, G., & Gao, X. Y. (2014). Innovative theory and practice of health management in China. *Chinese Journal of Health Management*, 8 (2), 75-78. In Chinese.
- Bai, S. Z., Wu, L. X., Ding, L., Chen, G., & Gao, X. Y. (2015). Innovative development of health services and health management in China. *Health Management*, (1), 89-93. In Chinese.
- Bali, A. S. & Ramesh, M. (2017). Designing Effective Healthcare: Matching Policy Tools to Problems in China. *Public Administration and Development*, (1), 40-50.
- Beach, L. R. & Burns, L. R. (1995). The service quality improvement strategy: identifying priorities for change. *International Journal of Service Industry Management*. 6 (5), 5-15
- Berelson, B. (1952). *Content Analysis in Communication Research*. Glencoe: Free Press.
- Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65 (3), 34-49.
- Bowers, M. R., Swan, J. E., & Koehler, W. F. (1994). What attributes determine quality and satisfaction with health care delivery? *Health Care Management Review*, 19 (4), 49-55.
- Camgöz-Akdagç, H. & Zineldin, M. (2010) Quality of health care and patient satisfaction: an exploratory investigation of the 5Qs model at Turkey. *Clinical Governance: An International Journal*, 15, 92–101.



- Chen, A., Li, L. J., Wang, J. S. (2016). The Experiential Elements of Patient Satisfaction Using the Phenomenological Qualitative Study. *Chinese Health Quality Management*, 9 (5), 1-4. In Chinese.
- Chen, G. J. (2012). The hard way for private physical examination institutions. *Capital Medicine*, (13), 33-35. In Chinese.
- Chen, K. E. (2008). *Comparison of prevalence of common chronic diseases among elderly people in urban and rural areas in villa areas in Hangzhou*. Master thesis, Zhejiang University. In Chinese.
- Chen, J. S., & Huang, J. S. (2007). *Health Management Specialist*. Beijing, China: Peking Union Medical College Press. In Chinese.
- Chen, J.X., Ma, L.C., Yu, W.L., Zhou, Z.X., & Zhou, Z.K.(2006).The concept and practice of “health management”. *Public health management in China*,22 (1), 7-10. In Chinese.
- Chen, M. M., Chen, Q., & Ji, Y. Q. (2008). The Current Situation and Development of Enterprization Health Management. *Chinese Health Service Management*, 25 (8), 512-515. In Chinese.
- Chen, P. Y., Huang, Z. M. (1999). Survey and evaluation of patient satisfaction. *Chinese Hospital Management*. 19(7):19-22. In Chinese.
- Chen, X. C., Wang, L., Xue, S. M., & Chen, X. H.(2016). A Literature Review of Customer Satisfaction Based on Service Quality. *China Management Informationization*, (19)11, 102-105. In Chinese.
- Chen, Y. J. (2013). Research on Basic Medical Service Quality Assessment Considering the Satisfaction Perception of Patients. *Value Engineering*, (26), 163-165.In Chinese.
- Chen, Y. S., Meng, F. L., & Shi, X. (2014). *A swot analysis and development of health management service institutions in China*. Health Management Branch of Zhejiang Medical Association. In Chinese.
- Cheng, X., Sui, L. N., & Cheng, M. (2014). Study on the perception of tourism image on silk Road based on web text analysis. *West forum*, 24(5), 101-108. In Chinese.
- Dai, J. B. (2017). Research on health transformation in China. *Social Sciences in Ningxia*,(3), 111-117. In Chinese.
- Davis, K. & Blomstom, R. L. (1993). Business and its environment. *Prentice Hall*, 11 (2), 237-328.
- Dai, M., Zhu, H., Zhou, G. Q., Zhou, X., & Lei, Y. H. (2008). Establishment and Implementation of "Comprehensive Quality Management System" of Medical Examination. *Chinese Journal of Health Management*, 2 (6), 347-350. In Chinese.

- Deng, Y. H., Zhang, X. Q., & Han, Y. H. (2017). Situation and Challenge of Rural Doctors in Rural in China. *Chinese Health Service Management*, 34 (2), 120-122, 144. In Chinese.
- Doerfel, M., & Barnett, G. (1999). A Semantic Network Analysis of the International Communication Association. *Human Communication Research*, 25(4), 589-603.
- Donabedian, A. (1990). The seven pillars of quality. *Archives of Pathology & Laboratory Medicine*, 114(11), 1115.
- Dong, D. (2007). Study on Health Management Pattern in China. *Friend of Science Amateurs*, (11B), 73-74. In Chinese.
- Dong, D. H., Li, G. H., & Yang, Y. (2005). Research of the Perceived Risk Facets by Consumers in Internet Shopping. *Chinese Journal of Management*, 2 (1), 55-60. In Chinese.
- Dong, J., & Wang, X. Z.(2001). Quality Management of Health Services in Hospital. *Chines Hospital Management*,21 (7), 31-32.In Chinese.
- Eggleston, K. (2009). The Marketing of Traditional Medicines in China: The Case of Guangxi Province. *The China Journal*, (61), 219-221.
- Eggleston, K., Ling, L., Qingyue, M., Lindelow, M., & Wagstaff, A. (2008). Health service delivery in China: a literature review. *Health economics*, 17 (2), 149-165.
- Eriksen, LR. (1995). Patient satisfaction with nursing care: concept clarification. *Journal of Nursing Measurement*,3 (1), 59-76.
- Fang, H. X., & Li, R. L. (2006). Practice and effect of humanistic service during physical examination. *Journal of Nursing Administration*, (5), 59-60. In Chinese.
- Feng, J., Zhang, T. (2009). Comparison of Models of Ownership Structure in the Health Care and Its Chinese Choice. *Jianghai Journal*, (6), 74-79. In Chinese.
- Fornell, C., Johnson, MD., Anderson, EW., Cha, J., & Bryant, BE. (1996). The american customer satisfaction index: nature, purpose,and findings. *Journal of Marketing*, 60(4), 7-18.
- Fu, H., Wang, J. J., Li, F., & Chen, J. X. (2007). Health Management Theory and Practice. *Health education and health promotion*,2 (3), 32-36.In Chinese.
- Fu, M. L., Feng, Z. Y., & Chen, S. C. (2011) The Enlightenment from Health Management Experience in Developed Countries. *Chinese Health Service Management*. 3 (2): 233 - 236. In Chinese.
- Fitzpatrick, R., & Hopkins, A. (1983). Problems in the conceptual framework of patient satisfaction research: an empirical exploration. *Sociology of health & illness*, 5 (3), 297-311.
- Frampton, S. B., & Guastellos. (2008). Honoring the life of a pioneer in patient-centered care: Harvey Picker(1915-2008). *Patient*,1 (2):73:75.

- Giese, J.L., & Cote, J.A. (2000). Defining consumer satisfaction. *Academy of Marketing Science Review*, 4, 1-24.
- Gong, C. J. (2016). Investigation and Analysis of Physical Examination Demands of 400 Physical Examinees in a Public Hospital in Dalian. *Chinese medical innovation*, 13(4), 111-114. In Chinese.
- Gong, A. L. (2008). SARS Narrative in Special Time-An Interpretation of SARS Narrative. *Journal of Chongqing Three Gorges University*, 24 (2), 92-95. In Chinese.
- Gong, J. H., Xie, L. S., Peng, J. M., & Guan, X. H. (2015). Customer responses to integrity issues for travel service in China: A content analysis based on online complaints. *International Journal of Contemporary Hospitality Management*, 27 (2), 199-213. In Chinese.
- Gu, H., & Luo, X., L. (2015). Influencing factors on the choice of public or private hospitals by middle-aged and elderly patients. *Research on China's health policy*, 8 (5), 31-36. In Chinese.
- Guo, Y. N. (2013). Analysis on the influencing factors of customer satisfaction in physical examination center. *The Journal of Medical Theory and Practice*, (21), 2937-2938. In Chinese.
- Guo, Q. (2016). *China Health Service Industry Development Report 2015*. Beijing, China: People's Health Press, 217-219. In Chinese.
- Han, D. M., Lu, J. X., Li, X. M., & Li, J. (2017). Research on the Development Strategy of China's Health Service Industry. *Chinese Engineering Science*, 19 (2): 21-28. In Chinese.
- Han, J. H., Dai, M., & Zhao, M. H. (2016). Effect of health management on patients with type 2 diabetes based on Regional Medical Association. *Chinese Journal of Health Education*, 32 (12), 1137-1139. In Chinese.
- Hafer, J. C., & Joiner, C. (1984). Nurses as image emissaries: are role conflicts impinging on a potential asset for an internal marketing strategy? *Journal of Health Care Marketing*.4 (1), 25-35.
- Hannu, V. (1998). Patient Satisfaction: An Attribute or Indicator of Quality Care? *International Journal of Health Care Quality Assurance*, 1 (2), 29-32.
- Harwood, T. G., & Garry, T. (2003). An Overview of Content Analysis. *Marketing Review*, (4), 479-498.
- Hou, J. L., & Ma, J. (2011). Review of patient healthcare satisfaction research and application. *Chinese Health Resources*.14 (3),138-139. In Chinese.
- Hou, L., & Yan, L. S. (2010). Preliminary Exploration and Practice of Enterprise-oriented Health Management. *Chinese Journal of Social Medicine*, 27 (5), 274-276. In Chinese.

- Hsiao, W. C. (1995). The Chinese health care system: lessons for other nations. *Social Science & Medicine*, 41 (8), 1047-1055.
- Hu, A. M., Li. E. M., Dong, Z. Y., Wang. Z., K, Wei., & Shi, X.(2011). Application of Health Management in Physical Examination. *Practical Preventive Medicine*, 18 (1), 180-181.In Chinese.
- Hu, X. J., Xu, Y., Xu, S. X., & Ye, X. M (2012) An Analysis of the Current Situation of Health Care Consumption in China. *Soft Science of Health*, (12), 1009-1011. In Chinese.
- Huang, H. C, Chen, P. J., & Chen, Z. M. (2015) Progress in the research of hospital-patient relation satisfaction. *Modern Hospital*, (3), 109-110, 112. In Chinese.
- Huang, D. (2012). *The Study on Development Strategy of Chinese Non-public Hospital*. Master thesis, Tianjin Medical University. In Chinese.
- Huang, J. S. (2007). What Is Health Manager. *Chinese Journal of Health Management*, 1 (2), 117-119. In Chinese.
- Huang, L.(2012).Application of Health Management Concept in Medical Examination Service. *Chinese Convalescence Medicine*, 21 (9), 855-857.In Chinese.
- Huang, S. Y., Wang, J., Zhang, T. H., & Meng, Q. Q. (2011). Development of the Scale for Chinese Hospital Patient Experience and Satisfaction Monitoring: Initial Formation of the Scale. *Chinese Hospital Management*. 31 (10), 13-15.In Chinese
- Hunter, D. J. & Brown, J. (2007). A review of health management research. *European Journal of Public Health*, 17 (1), 33-37.
- Huo, H. P. (2010). On the direction and development of health management model. *China Modern Medicine*, 17 (9), 119. In Chinese.
- Ji, J. S.(2004).Patient satisfaction survey is an important part of medical quality evaluation. *Chinese Journal of hospital management*. 1 (20), 49-50. In Chinese
- Jenkinson, C., Coulter, A., & Bruster, S. (2002). The Picker Patient Experience Questionnaire: development and validation using data from in-patient surveys in five countries. *International Journal Quality Health Care*,14(5), 353-358.
- Kassarjian, H. (1997). Content analysis in consumer research. *Consumer Research*, 4 (2), 8-18.
- Krippendorff, K. (2004).Reliability in Content Analysis: Some Common Misconceptions and Recommendations. *Human Communication Research*, 30 (3), 411-433.
- Kotler, P. (1977). *Marketing Management: analysis, plannting, implementation, and control*. Prentice-Hall International, INC.

- Lagace, R. R., Dahlstrom, R., & Gassenheimer, J. B. (1991). The relevance of ethical salesperson behavior on relationship quality: the pharmaceutical industry. *Journal of Personal Selling & Sales Management*, 11 (4), 39-47.
- Lasswell, H. D. (1948). *Power and Personality*. New York: NY.
- Li, N., & Ding, H. J. (2010). On the advantages and prospects of health management in large general hospitals from the perspective of health management in China. *Chinese Journal of Clinical Healthcare*, (6), 561-563. In Chinese.
- Li, J., Li, M., Tao, S., Fu, H., Wang, K. A., Tian, C. S., & Wang, L. D. (2017). The Current Situation and Development of Health Management in China. *Engineering Science*, 2, 8-15. In Chinese.
- Li, L. W., & Ren, J. P. (2016). Research of implementation current situation of health management service in Chinese comprehensive hospitals. *Soft Science of Health*, (2), 68-70. In Chinese.
- Li, N. S., Cheng, X. M., & Zhong, X. P. (2013). Practice and research on health management in hospital. *Journal of Medical Postgraduates*, 26 (6), 627-628. In Chinese.
- Li, R. C., Zhang, D., & Liu, Y. Z. (2017). Strengthen Government Intervention, Promote Health Consciousness, and Prolong Average Life Expectancy. *Journal of Chinese Research Hospitals*, 4 (2), 25-28. In Chinese.
- Li, H.T. (2008). Analysis of the stages and characteristics of the development of service marketing ideology. *Industrial Technology & Economy*, 27 (2), 144-146. In Chinese.
- Li, H. P., Luo, H. C., & Yao, T. (2012). The Impact of corporate image on customer attitudinal loyalty and behavioral loyalty: Evidence from china's retail banking industry. *Management Review*, 24 (6), 88-97. In Chinese.
- Li, X.N., Sun, J.F., Ni, X. L., Zhang, J. G., Xiong, R., Li, X. H., Chen, M., & Meng, P. (2016). Discussion on Internet + Community Health Management Service Model. *Chinese Journal of Health Information Management*, (1):85-88. In Chinese.
- Lim, M. K., Yang, H., Zhang, T., Feng, W., & Zhou, Z. (2004). Public perceptions of private health care in socialist China. *Health Affairs*, 23 (6), 222-234.
- Liu, D. Z., Chen, A., & Huang, K. (2006). Literature Review of Service Marketing. *Inner Mongolia Science & Technology and Economy*, (9), 36-38. In Chinese.
- Liu, H. Y., & Mu, Y. Q. (2015). The Role of Community in Health Management for Chronic Diseases. *Medicine & Philosophy*, 36 (23), 51-54. In Chinese.
- Liu, K. J., & Wang, M. (2005). Economic Burden of Main Chronic Non-infectious Diseases in China. *Chinese Health Economics*, 24 (10), 77-80. In Chinese.

- Liu, Q. M., Ma, P., & Yao, H. M. (2007). Health examination Moves towards Health Management. *China Foreign Medical Treatment*, (21), 49. In Chinese.
- Liu, Q. Q. (2013b). Discrimination of forest tourism concept based on ROST-CM analysis. *Journal of Central South University of Forestry & Technology (Social Sciences)*, 7 (1), 20-23 In Chinese.
- Liu, Q. X. (2003). Promotion of public health and prevention, the effective method to control hypertension. *Clinical Medicine*, (1), 1-2. In Chinese.
- Liu, W. H. (2010). *Hospital Marketing Strategy Research Based on Customer Consumption Behavior*. Master thesis, Shandong University. In Chinese.
- Liu, Y., & Cao, J.W.(2005).Some problems of patient satisfaction .*Chinese Journal of hospital management*, 2 (25), 51-52. In Chinese.
- Liu, Y. P. (2013a). *Survey on consumption demand of health management service industry in Guangzhou*. Master thesis, Guangdong University of Business. In Chinese.
- Liu, Y. (2009). Reforming China's health care: for the people, by the people? *The Lancet*, 373 (9660), 281-283. In Chinese.
- Liu, Y., & Li, G. R. (2011). Information construction of health management in physical examination institutions. *Chongqing Medicine*, (11). 1129-1130, 1136. In Chinese.
- Liu, Y. F. (2014) The Rise of the World Health Management Service Industry and Its Enlightenment to the Transformation and Development of Shanghai. *Shanghai Economy*, (12): 56-59.
- Liu, Y. F., & Wang, Z. (2016). The development model and its enlightenment of health management service industry in the United States. *Asia Pacific Economy*, (3), 75-81. In Chinese.
- Liu, Z. Q. (2017). Optimization strategy of service marketing in health management enterprise. *China Market Marketing*, (1), 108-109. In Chinese.
- Louviere, J. (2009). Honoring a pioneer in the study of patient and citizen choice. *Patient*, 2(2), 73-75.
- Lu, F. (2004). *Comparative and Synthetic Research on Content Analysis and Bibliometrics*. Master thesis, Nanjing University of Science and Technology. In Chinese.
- Lu, H. L., & Zhang, Y. (2016). An Exploratory Research on the Clues of B2B Brand Image-Based on Content Analysis of Web Reviews and Interviews. *Journal of Guizhou University of Finance and Economics*, (6), 26-40. In Chinese.
- Luo, H. (2016). The Released Program of "healthy China 2030". *Science and Technology Daily*, 10-26 (1). In Chinese.

- Mosadeghrad, A. M. (2013). Health care service quality: towards a broad definition. *International Journal of Health Care Quality Assurance*, 26 (3), 203-219.
- Ma, J. (2012). Reform Trends and Suggestions of Public Hospital. *Chinese Health Policy Research*, 5(11), 33-36. In Chinese.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50 (4), 370-396.
- Mcdougall, G. H, & Levesque, T. (2000). Customer satisfaction with services: putting perceived value into the equation. *Journal of Services Marketing*, 14(5), 392-410.
- Ministry of Labor and Social Security. (2007). National standard for the health management specialist. *Chinese Journal of Health Management*, (2), 74-77. In Chinese.
- Morrow, E., Ross, F., Grocott, P., & Bennett, J. (2010). A model and measure for quality service user involvement in health research. *International Journal of Consumer Studies*, 34, 532–539.
- National Health and Family Planning Commission of the PRC. (2015a). *China health and family planning statistical yearbook 2015*. Beijing, China: Peking Union Medical College Press.
- Newcomer, L.,N. (1997). Measures Of Trust In Health Care .*Health Affairs*, 16(1), 50-51.
- Olsen, L., Saunders, R. S., & Yong, P. L. (Eds.). (2010). *The healthcare imperative: lowering costs and improving outcomes: workshop series summary*. Washington (DC): National Academies Press.
- Ong, L. M., De Haes, J. C., Hoos, A. M., & Lammes, F. B. (1995). Doctor-patient communication: a review of the literature. *Social science & medicine*, 40(7),903-918.
- Pan, Y. H., Cao, H. T, Yu, X. J, & Liu, D. (2013). SWOT analysis of health management in community health service institutions in Shanghai. *Chinese Journal of General Practice*, (9), 1432-1433, 1439. In Chinese.
- Parasuraman, A., Berry Leonard L., Zeithaml Valarie A. (1988) .SERVQUAL: A Multiple -Item Scale for Measuring Consumer Perceptions of Service Quality . *Journal of Retailing*, 64 (1), 12-40.
- Peng, J. M., & Lin, Y. (2009). The Blend of Confucianism, Taoism and Buddhism in Sun Simiao Medical Ethics Thought. *Medicine and Philosophy*, 30 (17), 23-24. In Chinese.
- Petrick, J. F. (2002). Development of a Multi-Dimensional Scale for Measuring the Perceived Value of a service. *Journal of Leisure Research*, 34(2), 119-134.
- Qin, J., J. (2010). The pilots during convalescence healthy assessment analysis and thinking . *Chinese Journal of Convalescent Medicine*, 19 (1), 19-20. In Chinese.

- Qiu, J. P., & Zou, F. (2004). A Study of Content Analysis Methods. *Journal of Library Science in China*, 30 (2), 12-17. In Chinese.
- Qu, Q., & Ma, L. (2013). The Application of Corporate Culture Carriers in the Practices of Chinese Enterprises: A Content Analysis. *Management Review*, 25 (7), 45-53. In Chinese.
- Ramesh, M., Wu, X., & He, A. J. (2013). Health governance and healthcare reforms in China. *Health policy and planning*, 29 (6), 663- 672.
- Rao, K. Q., Yin, L., & Liu, Y. L. (2000). The effect on the development of social economy from the health transition of Chinese residents and the change of the demand for health services. *Chinese Health Economics*, (9), 5-11. In Chinese.
- Ren, Z., Guan, X. D., Wang, F., Shan, Y. L., & Yu, F. (2014). Research on the Effects of Health Management in Different Crowds. *China Practical Medical*, (21), 242-243. In Chinese.
- Reng, Z. N. (2003). Research on customer satisfaction in modern hospital. *Chinese Journal of hospital management*, 19 (6), 370-372. In Chinese.
- Rodrigues, H., Brochado, A., Troilo, M., & Mohsin, A. (2017). Mirror, mirror on the wall, who's the fairest of them all? A critical content analysis on medical tourism. *Tourism Management Perspectives*, 24, 16-25.
- Sajid, M.S., & Baig, M.K. (2007). Quality of health care: an absolute necessity for public satisfaction. *International Journal of Health Care Quality Assurance*, 20 (6), 545–548.
- Sallis, J. F. (2010). Measuring physical activity: practical approaches for program evaluation in Native American communities. *Journal Public Health Management and Practice*, 16 (5), 404-410.
- Shao, B. J., Wang, Y. T., & Ma, R. (2010). Empirical Study on the Customer Policy of Chinese B2C E-commerce-Based on Content Analysis of Website Service Agreement. *Journal of Intelligence*, 5, 200-203. In Chinese.
- Shi, M. C., & Chen, W. M. (2017). The influence of population aging in China on the development of service industry. *Social Sciences in Guangdong*, 2, 5-12. In Chinese.
- Sitzia, J., & Wood, N. (1997). Patient satisfaction: a review of issues and concepts. *Social Science & Medicine*, 45 (12), 1829-1843.
- Song, K., Zhao, H. L., Wu, R. X., & Jiao, H. L. (2011). The Effect Observation of Health Management Intervention on People Taking Health Examination in a Hospital of Tianjin. *Chinese Journal of Prevention and Control of Chronic Diseases*, (3), 244-245.
- Shi, Y. Y., Li, L. G., Feng, S. F. (2013). Public Welfare Research on Private hospitals. *Chinese Health Management*, 30 (11), 838-843. In Chinese.



- Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of Primary Care to Health Systems and Health. *The Milbank Quarterly*, (3), 457-502.
- Stewart, M. A., Mcwhinney, I. R., & Buck, C.W. (1979) The doctor/patient relationship and its effect upon outcome. *Journal of the Royal College of General Practitioners*, 29, 77–82.
- Sun, Y. B., & Liu, X. M. (2014). A Study of Factors Influencing Online Consumers' Purchase Behavior under the New Trend of Online Retailers. *Journal of Beijing Technology and Business University (Social Sciences)*, 29 (4), 93-101. In Chinese.
- Sa, W. S. (2002). *Partnerships between Privatization and the Public and Private Sectors*. Beijing: Press of Renmin University of China. In Chinese.
- Tan, Y. L., & Zhang, Y. M.(2014). A review of patients' medical care experience. *Journal of Nursing*, 29 (5), 91-93. In Chinese.
- Tataranni, P. A. (2002). Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin. *New England Journal of Medicine*, 346 (6), 393-403.
- Thomas, L. H., Macmillan, J., Mccoll, E., Priest, J., & Hale, C. (1995). Obtaining Patients' Views of Nursing Care to Inform the Development of a Patient Satisfaction Scale. *International Journal for Quality in Health Care*, 7(2), 153-163.
- Tian, J. Y. (2009). *Investigation on the Service Marketing Strategy of Privately Operated Hospital*. Master thesis, Wuhan University of Technology. In Chinese.
- Tsianakas, V., Maben, J., Wiseman, T., Glenn, R., & Alison, R,. (2012). Using patients' experiences to identify priorities or quality improvement in breast cancer care: patient narratives, surveys or both? *BMC Health Serv Res*, 12 (1),271.
- Tucker, J. L. (2002). The moderators of patient satisfaction. *Journal of Management in Medicine*, 16, 48–66.
- United Nations Development Programme. (2016). *China human development report in 2016*. Beijing: Zhongyi Press.
- Vladimir, S., & Veljko, M. (2013). Patient Care, Satisfaction and Service Quality in Health Care. *International Journal of Consumer Studies*, 37 (3),312-319.
- Wagstaff, A., Yip, W., Lindelow, M., & Hsiao, W. C. (2009). China's health system and its reform: a review of recent studies. *Health Economics*, 18 (S2), S7-23.
- Wang, J. R., Huang, S., Thomas, S., Yang, H., & Zhang, T. H. (2011) Comparative analysis of applying patient experience and satisfaction survey tool in Chinese hospitals. *Journal of Peking University( Health Sciences)* ,43 ( 3), 397-402. In Chinese.
- Wang, P. Y. (2015). Current situation, problems and prospect of health management theory and practice. *Chinese Journal of Health Management*, 9 (1), 2–6.

- Wang, Q., Xu, C.W., Tian, K., Cao, R., & Zou, L. A., (2011). Strategic Position of Physical Examination Service in Public Hospitals: Analysis of Physical Examination Consumers. *Chinese Health Economics*, 30 (7), 38-39. In Chinese.
- Wang, S. (2009). 60 years of Chinese medical. *Modern Elegance*, (18), 23-24. In Chinese.
- Wang, S. K., Li, S. X., & Luo, S. J., (2010). An Empirical Study on the Necessity of health management in Chronic Diseases. *China health management*, 27 (10), 713-715. In Chinese.
- Wang, W. G., Wang Y. M., Hu, A., Li, E. M., Wang, Z. K., Li, W. G., & Meng, L. Q. (2013). Chinese and foreign development of health management mode. *China Medical Herald*, (01), 33-35. In Chinese.
- Wang, X. W. (2009). Problems and Analysis of the Policies in the Development of Private Hospitals in China. *Jiangxi Social Sciences*, (5), 24-30. In Chinese.
- Wang, X., & Xue, Q. X. (2009). Analysis on the problems after the Chinese medical reform -from the perspective of the tripartite relationship between hospital, insurance supplier and patient. *Chinese Medical Ethics*, 22 (1), 136-137, 143. In Chinese.
- Wang, X. H. (2013). Analysis of Obesity and the related Chronic Diseases Among the Physical Examination Population in Changsha. *Practical Preventive Medicine*, 20 (1), 109-110, 106. In Chinese.
- Wang, X.Y., & Men, G. R. (2003). "SARS" reminds us to strengthen health education. *Zhongxiaoxue Xinli Jiankang Jiaoyu*, (6), 34-36. In Chinese.
- Wang, Y. (2008). The Application of Health Management Theory in Health Examination. *Chinese Journal of Health Management*, 2 (4), 206-207. In Chinese.
- Wang, Y. D., Wu, Y. C., & Li, J. B. (2015). A SWOT Analysis of the Development Strategy for Health Management Center of General Tertiary Hospital. *Chinese Hospital Management*, 35 (12), 97-99. In Chinese.
- Wang, Y. H. (2011). The Theoretical Analysis and Countermeasures Research on the Brand Marketing. *Economy and Management*, 25 (9), 54-57. In Chinese.
- Wang, Y., Zhang, Y., Xiu, H. Q., & Miao, Z., M. (2011). Discussion on the Standardization Construction of Healthy Physical Examination Subjects and the Innovation of Quality Management Mechanism, *Qilu Medical Journal*, 26 (1), 81-82. In Chinese.
- Willima, S., Weinman, J., & Dale, J. (1998). Doctor-patient communication and patient satisfaction: a review. *Family Practice*, 15(5), 480-492.
- Woelfel, J., & Stoyanoff, N. (1993). Catpac: A Neural Network for Qualitative Analysis of Text. The meeting of the Australian Marketing Association.
- Wu, C. Y., & Rao, Y. H. (2017). The Study of Government WeChat Official Account's

Information Theme Based on Content Analysis Method. *Modern Information*, 37 (2), 52-56, 67. In Chinese.

Wu, L. J., & Mi, Z. C. (2005). Economic Analysis of Perceived Value and Purchase Intention of Jewelry. *Market Modernization*, 31, 24-26. In Chinese.

Wu, L. X., Shi, L. J., Liu, S., & Liu, F.J. (2009). Preventive medical examination and health management implementation. *Chinese Journal of health management*, 3 (5), 260-270. In Chinese.

Wu, Y. W., & Yu, L. L. (2013). Analysis of Cognition Factors of Medical Service Quality in a 3A Hospital. *Chinese Hospital Management*, (12), 15-17. In Chinese.

Xi, S. (2014). The blowout development of private medical industry. *Shanghai Economy*, (2), 76-77. In Chinese.

Xu, X. Y. (2008). *Research on container empty container allocation under multimodal transport*. Master thesis, Dalian Maritime University. In Chinese.

Yang, B. G. (2006). *Research on private hospital development strategy*. Master thesis, Guangxi University. In Chinese.

Yang, H., Liu, F., Zhang, T.H., & Thomas, S.(2005). Problems and Suggestions in the Investigation of Patient Satisfaction. *Chinese Hospital Management Magazine*, 21 (7), 437-441. In Chinese.

Yang, J. X. & Wang, Z. Z. (2010). Thoughts about Strategies for Chronic Disease Integrated Control on the Basis of Community Health Management. *Chinese Health Economics*, 29 (7), 67-69. In Chinese.

Yang, T. (2009). A summary of china's health care system reform. *China economic & trade herald*. 2007 (1), 27-28. In Chinese.

Yang, X., Long, Q., & Long, C. (2017). Analysis on the Development Strategy of Health Management Industry under Background of Big Health in China. *Chinese Health Economics*, 36(5), 8-10. In Chinese.

Yao, B. F., & Xu, Z. F. (2012). Observation of Clinical Effects from Five Year's Community Health Service Center Intervention to Hypertension. *Chinese Journal of General Practice*, (2), 91-93. In Chinese.

Yao, G. B., & Li, J. (2009). Empirical Study on Satisfaction Degree Measurement System of a Comprehensive Hospital. *Hospital Administration Journal of Chinese People's Liberation Army*, 5, 408-410.

Yao, X., Shen, J. L., & Wang, Y. (2011). Medical Service Quality in China: From the Perspective of Customer's Satisfaction Theory. *Medicine and Society*, 24(3), 40-41. In Chinese.

- Ye, C. (2014). The important role of nursing service in physical examination. *The Medical Journal of Industrial Enterprise*, (4), 108-109. In Chinese.
- Yin, K.Y. (2003). Emotion management and countermeasures in medical service industry. *Hospital Management Forum*, 30 (3), 8-12. In Chinese.
- Ying, Y. Q. (2013). Exploring reasonable setting of physical examination package. *Modern Practical Medicine*, 25 (3), 344-345. In Chinese.
- Yuan, B. (2016). On "Preventive Treatment of Disease" by Means of Identifying Its Origin and Bring Order Out of Chaos. *Medicine and Philosophy*, 37 (5), 9-13. In Chinese.
- Zeithaml, V. A. (1998). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.
- Zeng, X. H., Zheng, Y. X., & Zhang, Q. (2015). Study on Definition of Smart Tourism Based on Content Analysis. *Resource Development & Market*, 10, 1246-1249, 1184. In Chinese.
- Zhai, Z. W., Chen, J. J., & Li, L. (2016). Aging in China: General Trends, New Characteristics and Corresponding Policies. *Journal of Shandong University (Philosophy and Social Sciences)*, 3, 27-35. In Chinese.
- Zhang, J. J., Li, J. L., & Cao, X. L. (2018). An Empirical Analysis of the influencing factors of patients' satisfaction with hospital treatment. *Journal of Beijing institute of technology (social sciences edition)*, 20 (1), 102-109. In Chinese.
- Zhang, J. J., & Mao, Z. X. (2012). Image of All Hotel Scales on Travel Blogs: Its Impact on Customer Loyalty. *Journal of Hospitality Marketing and Management*, 21 (2), 113-131.
- Zhang, Y. L., & Wang, W. Y. (2007). Study on the influential factors of outpatients' satisfaction. *Journal of Nursing Administration*, (9), 35-36, 38. In Chinese.
- Zhang, Y. T., & Zhao, X. L. (2015). Development status and Prospect of health management subject. *World Latest Medicine Information*, 51, 3-4. In Chinese.
- Zhang, Y. Y., Fan, X. L., & Zhou, P. Z. (2009). Health education in physical examination. *Practical Journal of Cardiac Cerebral Pneumal and Vascular Disease*, 17 (9), 824-825. In Chinese.
- Zhao, H. Z. (2009). The Necessity and Feasibility of Health Management. *Health Economics Research*, 8, 52-53. In Chinese.
- Zhao, H.Y., Zhou, T. T., & Zhou, L. (2017). Preliminary Study on Business Model of Health Management Service in China. *Modern Business*, (2), 191-192. In Chinese.
- Zhao, J. N., Zhang, J., Ni, J. L., & He, L. P. (2011). Application Effects of Health Management System in the Physical Examination Center. *Hospital Administration Journal of Chinese People's Liberation Army*, 18 (2), 140-141. In Chinese.

- Zhao, N., Liang, Y., Tan, Z. J., Xu, Y. Y., & Wu, L. X.(2013). Comparative Analysis of Health Check-up Items in China and Aroad. *Progress in Modern Biomedicine*,13 (11), 2135-2141.In Chinese.
- Zhao, W. Y., Zhou, B., & Niu, L. (2013). Research on the Gradual Change of Urban Residents' Consumption Structure in China. *Journal of Capital University of Economics and Business*, 15 (4), 5-12. In Chinese.
- Zhao, Y., Wang, L., & Peng, L. Q. (2015). A Factor Analysis Method Based Study on the Validity Evaluation Index System of the Micro-blog Marketing Strategy. *Contemporary Economy & Management*, 37 (7), 26-30. In Chinese.
- Zheng, W. H. (2006). Comparative Research on Bibliometrics and Content Analysis. *Journal of Information*, 25 (5), 31-33. In Chinese.
- Zhou, J., & Duan, D. Q. (2013). On The Challenge of the Health Equity in the Background of Economic Transition. *Journal of Wuhan Commercial Service College*, 27 (5), 32-37. In Chinese.
- Zhou, L. M., & Qiu, J. P. (2005). On the Web-based Content Analysis. *Journal of the China Society for Scientific and Technical Information*, 24 (5), 594-599. In Chinese.
- Zhou, M. T.(2008). *Accounting & Control of Medical Service Quality based on patient satisfaction*. Doctor thesis, Huazhong university of science and technology. In Chinese.
- Zhou, X. L. (2016). Integrated Service Model of Health Management in Hospital Medical Center. *China Foreign Medical Treatment*, 35 (31), 196-198. In Chinese.
- Zhu, M. F., Ceng, Y. H., & Ouyang, X. (2009) The application of brand marketing strategy in Health examination management. *Lingnan Journal of Emergency Medicine*, (5), 405-406. In Chinese.

## Webliography

Carroll, A. (2012). JAMA Forum-The "Iron Triangle" of Health Care: Access, Cost, and Quality. Retrieved January 31, 2018, from

<https://newsatjama.jama.com/2012/10/03/jama-forum-the-iron-triangle-of-health-care-access-cost-and-quality/>

Chinese industrial information website. (2017). *The development status of China's professional examination industry and prediction of its future development prospects. in 2017*. Retrieved June 28, 2017, from

<http://www.chyxx.com/industry/201709/559099.html>

Deloitte. (2015). *2015 Healthcare Sector Outlook: China*. Retrieved June 28, 2017, from

<https://www2.deloitte.com/global/en/pages/life-sciences-and-healthcare/articles/global-health-care-sector-outlook.html>

Glied, S. (1999). *Managed Care*. Retrieved January 8, 2018, from <http://www.nber.org/papers/w7205>

Lu, T. L. (2002). *Landscape of health care consumer market*. Retrieved April 4, 2018, from <http://www.pharmnet.com.cn/yyzx/2002/04/16/112614.html>. In Chinese.

Meinian Onehealth, Inc. (2017). *2016 Annual Report of Meinian Onehealth, Inc*. Retrieved June 28, 2017, from:

[http://quotes.money.163.com/f10/ggmx\\_002044\\_3129190.html](http://quotes.money.163.com/f10/ggmx_002044_3129190.html)

National Health and Family Planning Commission of the PRC. (2015b). *Further improving the action plan for medical services*. Retrieved March 19, 2015, from [http://www.nhfpc.gov.cn/zyygj/ylfwjh/gxyg\\_index.shtml](http://www.nhfpc.gov.cn/zyygj/ylfwjh/gxyg_index.shtml)

National Health and Family Planning Commission of the PRC. (2015c). *Guidance on Strengthening Performance Evaluation of Public Health Institutions in Public Hospitals*. Retrieved December 21, 2015, from

<http://www.nhfpc.gov.cn/renshi/s3577/201512/d0be65b3c9464923b541890cbfb4204f.shtml>