THE STUDY ON HEALTHCARE ACCESS OF RURAL RISEDENTS IN CHINA: A CASE STUDY OF LISHUI CITY ZHEJIANG PROVINCE

MINGYUAN XIA

A THESIS SUBMITTED IN PARTIAL FULLFILLMENT OF
THE REQUIREMENT FOR THE DEGREE OF MASTER OF ARTS
PROGRAM IN PUBLIC MANAGMENT INNOVATION
FACULTY OF LIBERAL ARTS
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
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Thesis Title	The Study on Healthcare Access of Rural Residents in China: A Case Study of Zhejiang Province
Name - Surname	Miss Mingyuan Xia
Major Subject	Public Management Innovation
Thesis Advisor	Mr. Chaimongkhon Supromin, D.P.A.
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Academic Year	2023

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..... Dean of Faculty of Liberal Arts
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30 October 2023

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ABSTRACT

The study aimed: 1) to explore the Chinese people access to the healthcare system in rural areas, LISHUI city in Zhejiang province, China, 2) to analyze factors affecting the rural resident's satisfaction in accessing to the healthcare service in Lishui city in Zhejiang province and 3) to search for the problems and the policy guidelines in Public Health Care for the Chinese people in LISHUI city in Zhejiang province, China.

The tools to collect data was questionnaire. The data were analyzed by frequency, percentage, mean, standard deviation and Multiple Regression analysis.

The results revealed that 1) the overall means of the healthcare system factor is moderate ($\bar{x}$ = 3.31, *SD*= 0.82), When considering each aspect, The highest factor was the family caregiver ($\bar{x}$ = 3.39, *SD* = 0.692) the second factor was Community welfares ($\bar{x}$ = 3.41, *SD* = 0.79) followed by Family Resources ($\bar{x}$ = 3.39, *SD* = 0.82) , Social Support ($\bar{x}$ = 3.32, *SD* = 0.85) and Quality of healthcare services provision ($\bar{x}$ = 2.98, *SD* = 0.82) respectively. 2) The quality of healthcare services provision (X5) has the strongest positive effect on healthcare services provision, followed by social support (X3), community welfares (X4), and family resources (X2). The model shows 66.5% of the variance in healthcare services access. The findings indicate that providing quality healthcare services and social support are crucial factors in enhancing satisfaction of healthcare accessibility for individuals residing in rural areas. And 3) the problems accessing to the LISHUI residents' healthcare in Zhejiang province were number of doctors and their efforts that challenges in rural areas,

high medical costs, lacking of medical facilities, and nonequivalent medical resources between urban and rural areas. The policy guidelines to access public health care for the LISHUI residents in Zhejiang province were; 1) to decrease the proportion of self-funded medical treatment and to raise the standard of systematic subsidies, 2) to accelerate the construction for more rural medical service centers, 3) to strengthen the specialization of medical services and 4) to improve significantly the medical system more efficiently.

Keywords: factor Affecting, healthcare access service, supporting factors, rural areas

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MINGYUAN XIA

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CHAPTER 1
INTRODUCTION

1.1 Background and Statement of the Problem

Accessing to Public Health and Medical Care is a fundamental human right, yet disparities in healthcare access persist globally due to varying healthcare systems and numerous influencing factors. It is estimated that more than half of the world's population lacks full access to essential health services, with a shortage of nearly 18 million health workers worldwide (World Health Organization, 2021). Despite experiencing economic growth and improved health outcomes over the past few decades, China still faces significant urban-rural health inequalities (Li et al., 2017). China is currently facing various challenges in meeting the healthcare needs of its citizens, particularly as a result of a rapidly aging society and the increasing burden of noncommunicable diseases (NCDs). The reduction in mortality and fertility rates has led to a rapidly aging population, while social and economic transformations have brought about urbanization and lifestyle changes that have resulted in emerging risk factors such as obesity, sedentary lifestyles, stress, smoking, alcohol and substance abuse, and pollution exposure (World Health Organization, 2019). Moreover, China is presently facing with a shortage of healthcare professionals, particularly in primary care and rural healthcare facilities. This shortage can be attributed to factors such as low income and benefits, limited opportunities for clinical skill development, hindered academic and personal growth, and challenges in building professional networks (Yang & Hao, 2018; Fan V et al., 2022).

In response to these challenges, China initiated a healthcare reform in 2009 aimed at establishing a well-functioning health system. From 2000 to 2011, there was a significant increase in total health expenditure per capita in China, rising from CN¥319 to CN¥1888 with an average annual increase of 17.4%. During this period, the government and the social health expenditure also grew rapidly in a high rate, averaging an annual increase of 22.9% and 18.8% respectively. In contrast, out-of-pocket payments increased at a lower rate, from CN¥171 in 2000 to CN¥710 in 2011. However, the

proportion of out-of-pocket payments in total of the health expenditure decreased from 53% in 2005 to 38% in 2011 (Long, et al.,2013)

Over the past two decades, China has made significant improvements in healthcare resources, particularly in urban areas where medical professionals, institutions, and pharmaceuticals have reached international standards. The healthcare reform has also contributed to the progress by improving healthcare services. However, some challenges still remain, particularly in rural areas where inadequacies persist. The affordability of healthcare services and access to primary care and public health services are still major concerns. Economic disparities across provinces and regions exacerbate healthcare disparities between urban and rural areas, leading to unequal healthcare access for individuals and regions. This issue is consistent with previous study highlighting barriers to healthcare access for rural residents, including limited medical resources and high costs (Li et al., 2017; Wang et al., 2019).

Lishui is a city located in Zhejiang province with the population 2,514,000 permanent residents in the year 2021 (Figure1). Out of the number of population, 1,571,000 were classified as urban residents, while 943,000 were classified as rural residents. The urbanization rate, which is the proportion of the urban population in the total population, was 62.5%, representing a 0.6% increase from the previous year. Zhejiang Province, where Lishui city is located, has experienced rapid economic development, leading to an aging population and healthcare affordability challenges (Jiang, et. al. 2023) The residents in Lishui city are facing with public health challenges, including the prevalence of chronic diseases and concern about healthcare access, particularly in rural areas (Wu, X., et al., 2016).

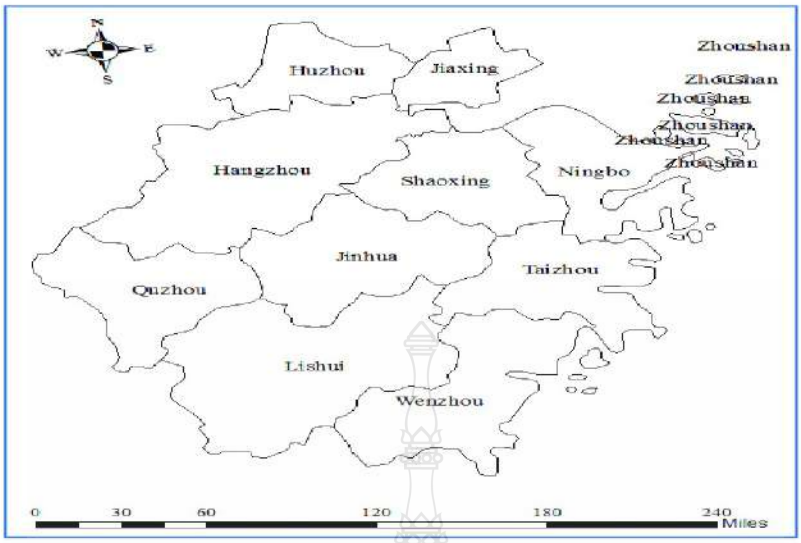

Figure 1 Map of Zhejiang Province in China

Source: Wang & Yang. (2019).

According to the significance and the problems facing regarding access to healthcare services in China. the study aimed to analyze the factors that impact healthcare access for rural residents in LISHUI city, in Zhejiang Province, China. The study aims to provide valuable insights to scholars and policy makers for the development of basic medical security in the region.

1.2 Objectives of the Study

The objectives of the research were:

1.2.1 To study the people's access to the healthcare system in rural areas of LISHUI city in Zhejiang province, China.

1.2.2 To analyze factors affecting the satisfaction of rural residents in accessing to healthcare service in Lishui city in Zhejiang Province, China.

1.2.3 To search for the problems and policy guidelines in public health care for residents in rural area of LISHUI city in Zhejiang province.

1.3 Research Questions

1.3.1 What is the level of satisfaction of rural residents regarding access to healthcare system services in LISHUI city in Zhejiang province?"

1.3.2 What are the factors affecting to the access of healthcare system for rural residents in LISHUI city in Zhejiang Province?

1.3.3 What are the problems and the policy guidelines to improve the access in healthcare system for rural residents in Zhejiang province?

1.4 Definition Terms

1.4.1 Healthcare refers to the services, the resources, and the activities related to the prevention, the diagnosis, the treatment, and the arrangement to illness, disease, and injury. Healthcare encompasses a wide range of services and activities, including medical consultations, diagnostic tests, surgeries, medication management, rehabilitation services, and preventive cares by public hospitals in Lishui Zhejiang Province China.

1.4.2 Healthcare access refers to access to care, generally refers to the timely use of personal health services to achieve the best possibly outcomes. Initially, the premise was the access to physicians and hospitals. Recently, the analysis of health care access has required accounting for a variety of providers, services, and facilities. In addition, access describes the actual use of health services and factors that facilitate or impede the healthcare.

1.4.3 Rural areas generally refer to regions that are located outside of urban or metropolitan areas. These areas are characterized by low population density, a reliance on agriculture or natural resources for livelihoods, and limited access to services and infrastructures such as healthcare, transportation, and education.

1.4.4 Family factors provide the free multi-level necessity and diversified nursing services for patients with chronic diseases, terminally ill patients or residents with disabilities. The sick people in families are provided with physical, psychological and therapeutic care. The targets for service are the elderly, the disabled, the young and so on.

1.4.5 Family resources refer to the material and spiritual wealth owned by the family. Household resource assets refer to the assets and resources related to the family.

1.4.6 Community resources refer to the administrative areas in which the members of society in a certain geographical area taking the living environment as the main sections, exercise social functions, create social norms, and are used by the community to evolve all resources.

1.4.7 Community welfare: Social welfare refers to all measures to evolve the material and cultural life of the majority of social members, and is a good living condition of social members. In order to ensure the basic living standard of all citizens, the social welfare state only meets the basic survival welfare needs of all residents in the community such as food, clothing, housing and transportation.

1.4.8 Healthcare accessibility refers to the convenience which individuals can obtain healthcare services when needed. It involves factors such as the physical proximity of healthcare facilities, the transportation options, the availability of appointments, and the affordability of services. The accessibility is an important aspect of healthcare as it impacts the ability of individuals to receive timely and appropriate medical care.

1.4.9 Healthcare availability refers to the extent which healthcare services and resources are accessible and present Lishui, in Zhejiang Province. It encompasses factors such as the presence of healthcare facilities, medical professionals, medical equipments, medications, and other necessary resources that are needed to provide healthcare services to individuals or communities.

1.4.10 Facilities and Accommodation for healthcare: Medical equipments refer to instruments, equipments, appliances, materials or other articles used on the human body. Medical equipments are the most basic elements of medical healthcare, scientific researches, medical pedagogy, medical institutions, clinical disciplines, including professional medical equipments, and home home care / home treatment equipments.

1.4.11 Affordability for rural people refers to the ability of individuals or households living in rural areas to afford or access in medical treatment in Lishui city.

Residents in rural areas can bear the financial pressure when choosing health care, including paying for health care and bearing the cost of medical assistance.

1.4.12 Residents' satisfaction to healthcare access refers to the level of the satisfaction that residents in Lishui, Zhejiang province have got with a medical service

from public hospitals such as healthcare services, residents' satisfaction with doctors and nurses treatment and affability.

1.5 Scope of the Study

1.5.1 Scope of content

The study mainly aimed at the Chinese people's access to the healthcare system in rural areas of LISHUI city in Zhejiang province and to analyze the factors affected to evolve the accessing to the healthcare for Chinese people in LISHUI city, Zhejiang province, and to search for the problems and policy guidelines in public health care.

1.5.2 Scope of Population

The Population in this study were residents of Lishui city the in rural area consist of 918,000 people. The Sample in this study are residents of Lishui city the in rural area consist of 400 people (Zhejiang Provincial Bureau of Statistics, 2023). The sample was obtained by calculating the sample size according to the formula of Yamane (1973) at a confidence level of 95 percent and a level of error of 5 percent.

1.5.3 Scope of time

The study was conducted in year May 2022 - March 2023.

1.6 Hypothesis

1.6.1 The factors of family, social networks, and community resources may significantly influence the healthcare service access to LISHUI residents in Zhejiang province.

1.6.2 The factors of quality may significantly influence the Healthcare service access to LISHUI residents in Zhejiang province.

1.7 Conceptual Framework

The conceptual framework was developed from a concept, a theory and the literature, or previous studies including:

1.7.1 Theory of Healthcare Access by Aday and Anderson (1974); the framework for understanding the factors that influence healthcare access including Healthcare policy, characteristics of Health Delivery System and the population at risk,

the consumer satisfaction. Penchansky & Thomas (1981) explained that the healthcare access should be in 4 dimensions, such as availability, accessibility, affordability, and acceptibility.

1.7.2 Nirarat & Kidsom (2017) studied about "factor affecting access to health services for elderly in Bangkok." "The factors included availability, accommodation, accessibility, acceptability and affordability respectively. Seetamanotch (2002) studied about "access to universal health care coverage of elderly with factors related in Phuket". They included availability, geographical accessibility, accommodation, and affordability.

1.7.3 The study on healthcare access in China by Hu et al. (2019) was the factors influencing health-seeking behaviors among migrant workers in Beijing, China; A qualitative study. It was found that distinctive education level, monthly household income per capita, working hours per day and insurance coverage were found to be statistically significantly associated with the health seeking behavior of migrant workers. This was related to Thai Study by Swe et al. (2019). Factors influenced self-management behaviors among hypertensive patients with comorbid diabetes in rural Thailand. It was found that family relationships, family health behaviors, family economic status, and family social networks were significantly correlated with family management for patients with hypertension. The study by Niramita & Promphakping (2019) indicated factors affecting access to health services of female Lao' s sex and service workers at the border in Ubonratchathani Province indicated that 1) the social status including social networks, friends, employers and resort owners with their interests are related to sex service industry: and 2) individual level including legal status, income, and knowledge concerned with health services related to health services. Bakeera, et al. (2009). found out that income sources, transport ownership, and health literacy were centrally useful in overcoming barriers to healthcare utilization for the poor residents. In addition to individual material resources and the availability of free public healthcare services, social

From theories and relevant researches, therefore, it can be summarized as the research conceptual framework as shown in the figure 2.

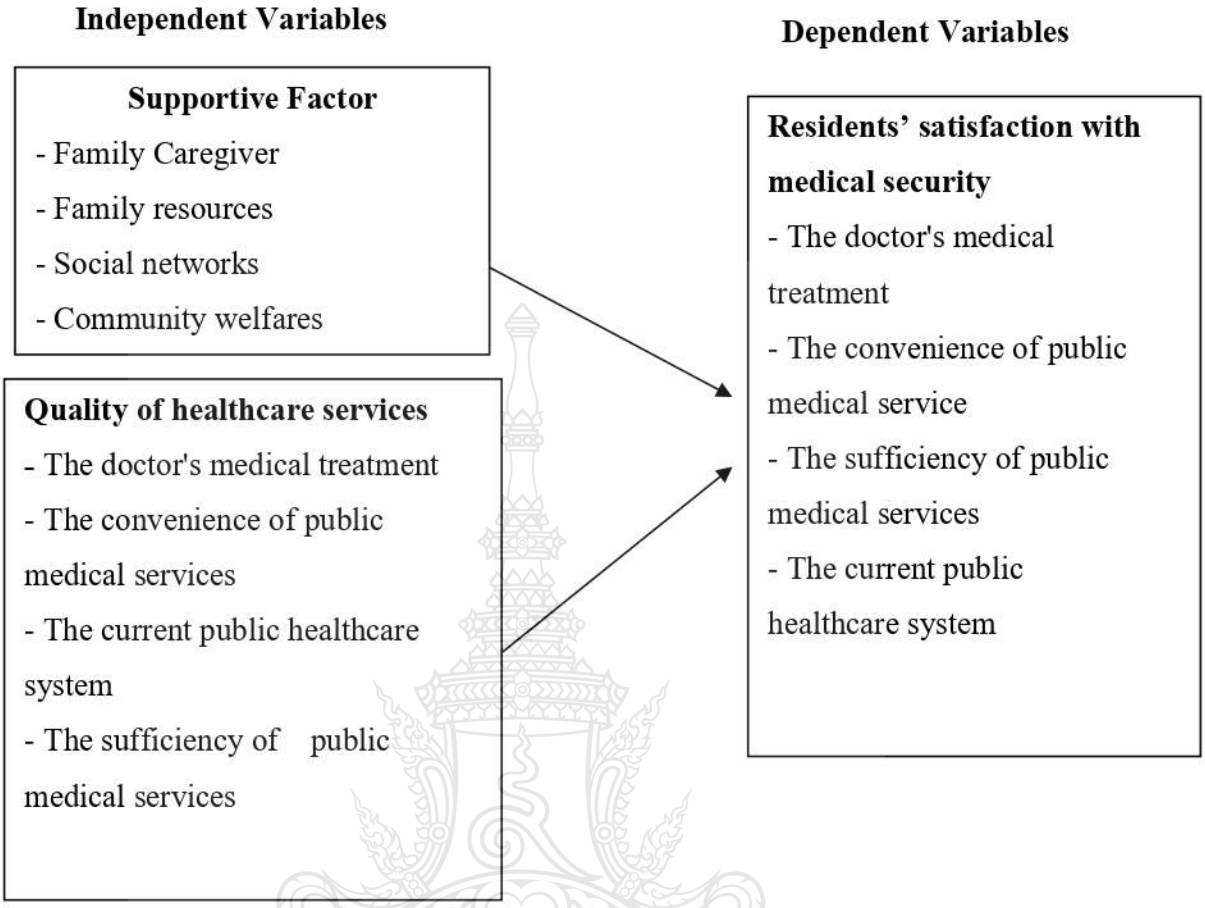

Figure 2: The conceptual framework

CHAPTER 2
REVIEW OF THE LITERATURE

The study has employed the concepts and theories as followings;

1) The concepts and the theories of healthcare access
2) Healthcare Systems in China
3) Lishui city, Zhejiang Province
4) Literature Review

2.1 The concept and the theories of healthcare access

An access to a medical care plays an vital role and has got the practical significance. The popularization and the progress of medical care could support farmers and solve their troubles of a difficult and expensive treatment, and effectively reduce the burden of medical expenses for farmers. The access to public health services is a system for people's health care services that is widely implemented. The heart of providing public health services to the people is to create public health service satisfaction and to lead to an vital role in public health policy implementation (Levesque et al, 2013)

However, the interpretation or the definition of merchandise is An access to healthcare services" is still extremely complex and diverse. Many educators, scholars and public health experts define the meaning of the access to public health services distinctively. The definition would be in the characteristics of identifying factors or the characteristics that influence the use of public health services or the quality of providing public health services and the need for public health services. In addition, There was a lack of clear understanding in contexts, the definitions, and even the aspects of the access. Therefore, the results came out depending on the context and the environment. There was distinctiveness according to the goals or the objectives of the study (Levesque et al, 2013; Pananda Chansukree, Nitinai Rungjindarat and Peerasak Jiwtan, 2560)

Aday & Andersen (1974) explored the concept of how to access to healthcare services. This can be summarized that it depends on a combination of factors of healthcare service system, characteristics of a population at risk, the consumer satisfaction, the u healthcare service types the individual uses, and the characteristics of Health service

delivery. They identified five relevant factors playing a crucial role in determining the access to public health services as followings;

1) Healthcare policy including expenditure, education, and manpower organization

2) Characteristics of population at risk including age, gender, supporting factor, education of healthcare, and sociolect-economic status.

3) Consumer satisfaction including convenience, cost, coordination, information and quality

4) Utilization of Health service including type, location, objectives and time interval

5) Characteristic of healthcare service delivery including resources, quantity, and distribution.

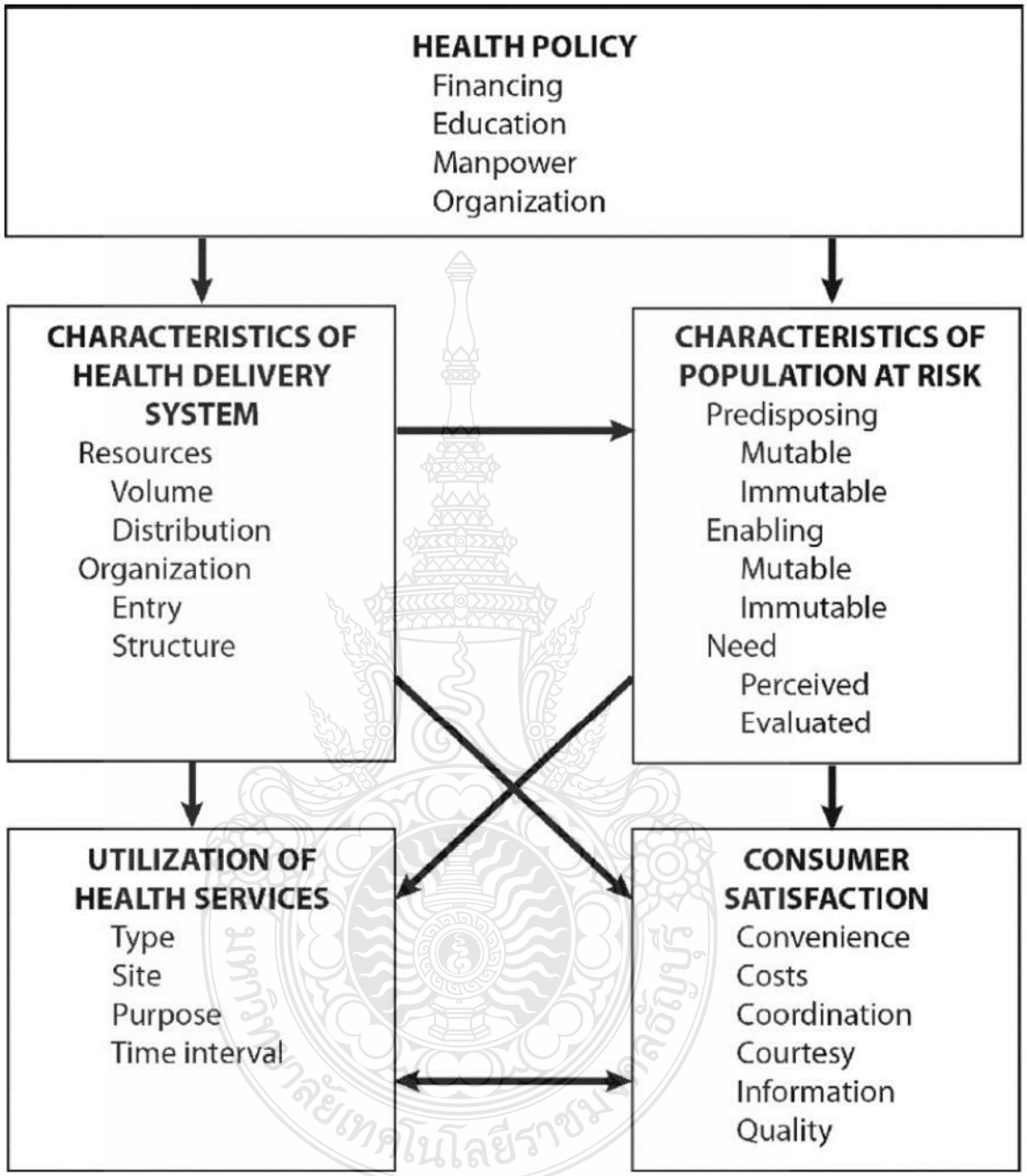

Figure 2.1 Theory to of Healthcare Access

Source: Aday & Anderson (1974)

2.1.1 The theory of healthcare access by Penchansky and Thomas (1981)

Penchansky and Thomas (1981) proposed a concept of assessing access to healthcare services that consists of five key areas, collectively referred to as the "Dimensions of Access to Care." These dimensions are as followings;

Availability: The dimension assesses the presence and readiness of healthcare services when and where they are needed. It includes considerations such as the availability of necessary healthcare services, facilities, and resources in a given area.

Accessibility: Accessibility focuses on the ease with which individuals can physically reach healthcare services. It involves factors like geographic proximity, transportation options, and the convenience of scheduling appointments.

Accommodation: Accommodation refers to the ability of healthcare services to adapt to the specific needs and circumstances of individuals seeking care. This dimension considers factors such as the availability of services for special populations, language accessibility, and cultural competence.

Affordability: Affordability assesses the financial aspect of accessing healthcare services. It involves evaluating whether individuals can afford the costs associated with care, including out-of-pocket expenses, insurance coverage, and other financial barriers.

Acceptability: Acceptability relates to the willingness of individuals to seek and utilize healthcare services. It considers factors such as the alignment of services with individual preferences, cultural norms, and beliefs, as well as the perceived quality of care.

These five dimensions collectively provide a comprehensive framework for assessing access to healthcare services. Evaluating access through these dimensions helps policymakers and healthcare providers identify barriers and develop strategies to improve access to care for individuals and communities.

2.1.2 The theory of healthcare access by Aday and Anderson (1981)

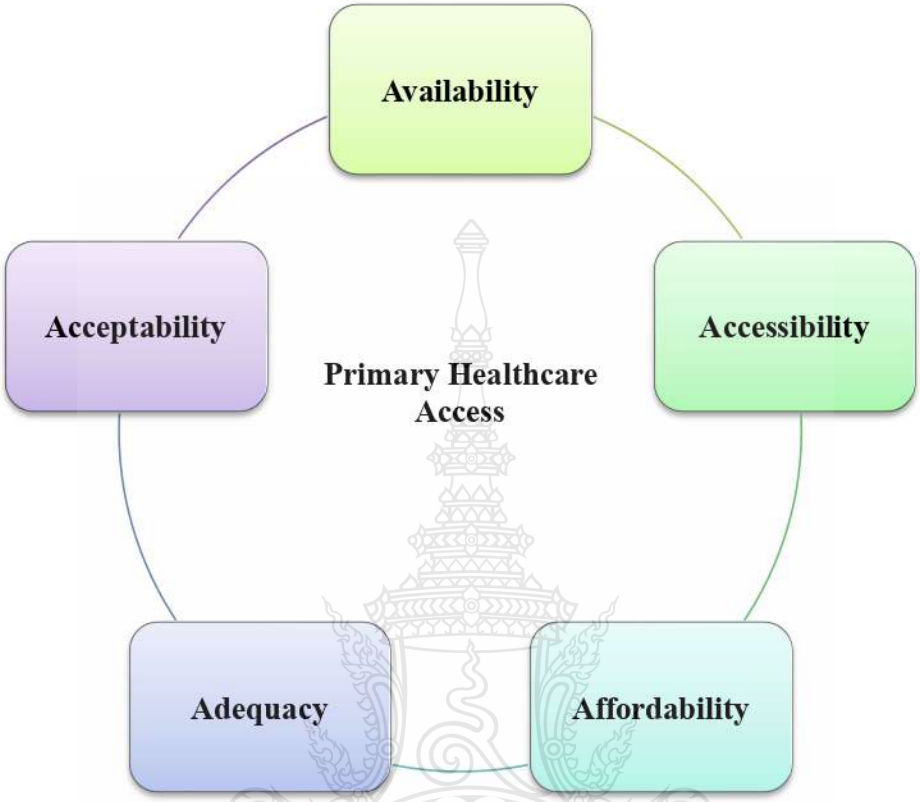

Figure 2.2 Theory to of Healthcare Access

Source: The theory of Access to healthcare by Penchansky and Thomas (1981)

2.2 The healthcare system in China

China healthcare system faces huge challenges as it was hit by COVID-19. Although China's medical care has made a great progress in the past decade, it still cannot meet the needs of some residents. In particular, with the aging of the Chinese population and the increasing incidence of chronic diseases, China urgently needs to reform the current medical care system and improve the capacity of the current medical care system as much as possible.

The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, and not just the absence of infirmity and disease As for a health system, it referred to as a healthcare system. (WHO,2019). It can be

defined as an organization that provides healthcare services to meet the health needs of the target population

In rural areas, they should gradually establish a new rural cooperative medical and healthcare system that adapts to the requirements of the socialized marketing economical system and the level of rural economical development, focusing on the overall planning of serious diseases. The new rural cooperative medical and healthcare system is organized, guided and supported by the government, and is compatible with the local economical and social development system that the farmers' economical affordability and medical expenses needs. It is a mutual aid, farmers' medical and healthcare based on serious disease and voluntary participation by farmers, multi-financing by individuals, collectives and governments. Healthcare services in China are composed of three levels of healthcare service system. Primary healthcare services are community-based medical institutions that directly provide preventive, medical, and healthcare services to certain populations; Secondary health services are municipal or district-centered hospitals; Tertiary health services are made up of large hospitals. The public health sector is the main provider of healthcare service.

At present, China's healthcare administrative system is divided into four levels, from the central to the local level, which are mainly national, provincial autonomous regions, municipalities directly under the central government, prefecture-level and county-level. It is mainly led by the government and led by the National Health Commission, PRC and the Administration of Traditional Chinese Medicine. The National Development and Reform Commission, PRC, the Ministry of Civil Affairs, the Ministry of Finance and the Ministry of Human Resources and Social Security shoulder the medical care responsibilities within their respective powers and responsibilities. In China's healthcare system, healthcare services are composed of three levels of health care service primary-level, secondary-level and tertiary-level respectively; Primary-level health service institutions are centered in villages and towns and directly provide prevention, medical treatment, health care and other services to certain populations; Secondary health services are municipal or district-centered hospitals; Tertiary health services are made up of large hospitals. The public health sector is the main provider of health care system.

2.3 Lishui city, Zhejiang Province

Zhejiang Province is a provincial administrative region located in the southeast coastal areas of China. It has a jurisdiction over 11 prefecture cities, 37 municipal districts, 20 county cities and 33 counties with a total area of 105,550 square kilometers. Zhejiang Province has a certain foundation of medical security. By the end of 2021, there are 35,100 medical and healthcare institutions in the province, including 1,485 hospitals and 33,000 grass-roots medical and healthcare institutions. Zhejiang Province is speeding up the reform of the three-level county medical and health service system to build an integrated medical and health service system, so as to promote the integration and optimization of high-quality medical and healthcare resources, and provide a solid foundation for the protection of local residence lives.

By the end of 2016, Lishui City has set up Liandu District, with jurisdiction over 7 counties - Qingtian, Jinyun, Suichang, Songyang, Yunhe, Qingyuan, and Jingning , and 1 city - Longquan . Jingning is a Sheautonomous county in China. There are 53 towns (1 She nationality town), 90 townships (6 She nationality townships), 30 streets, 126 neighborhood committees and 2725 village committees in the city. In February 2022, the amount of population of Zhejiang Province in 2021 was released. In 2021, Lishui City had 2,514,000 permanent residents at the end of the year, a birth rate of 7.0 %, a death rate of 7.0 % and an urbanization rate of 62.5%.

In 2022, the main population of Lishui City in 2021 was announced. At the end of 2021, the urban population among the permanent residents of Lishui city was 1,571,000, and the rural population was 943,000 respectively. The proportion of urban population in the total amount i.e., urbanization rate was 62.5%, which was increased by 0.6 percentage points compared with the year 2020.

2.4 Literature review

Dina Balabanova, Justin Parkhurst, Martin McKee&Barbara McPack (2006) have documented the access to health care; taking into account health systems complexity that existing theoretical frameworks often conceptualize an access as a one-stop contact

with the healthcare system and were obstructed by a RANGE of obstacles. These fail brings to address the complexities involved in accessing healthcare services.

Michael Karpman, MPP; Stephen Zuckerman, PhD; Sarah Morriss, BA (2023) presented the Health Care Access and Affordability Among US Adults Aged 18 to 64 Years With Self-reported Post–COVID-19 Condition that the findings suggest the policies aimed at improving access and affordability which may focus on accelerating development of treatments and clinical guidelines, training clinicians, and addressing insurance-related administrative and cost barriers.

Ebenezer Dassah, Heather Aldersey, Mary Ann McColl & Colleen Davison (2018) presented the factors affecting access to primary health care services for persons with disabilities in rural areas; a best-fit framework synthesis that an access – PHC - dues to obstacles including the interplay of four major factors; availability, acceptability, geography and affordability. In particular, limited availability of healthcare facilities and services and perceived low quality of care meant that those in need of health care services frequently had to travel for care and treatment.The barrier of geographic distance was worsened by transportation problems. It can be also observed that where health services were available most people could not afford the cost.

Panita Pongsaweth (2008) presented the accessibility to curative care services for the elderly in Damnoen Saduak, Ratchaburi Province that the elderly in Damnoen Saduak were able to get access to curative care services when they got it. The caregiver was an important person helping the elderly to get healthcare services.

Chanuan Uakarn, Kajohnsak Chaokromthong, Nittaya Sintao (2021) presented Sample Size Determination of Quantitative Research; it was found that population size as in any research fields for the researchers to collect data for analyzing were Descriptive Statistics and Inferential Statistics. Therefore, sample size refers to a representative of the population. Research Purposes are to study sample size on determination of academic officers for references to determine the sample size of the research appropriate for population size, and to calculate sample size by G*Power.

Dangui Zhang, Zichun Jiang, Yu Xie, Weiming Wu, Yixuan Zhao, Anqi Huang, Tumei Li and William Ba-Thein (2022) studied with perceived adverse impacts on the

entire healthcare delivery and risks to the healthcare quality and burden, interventions such as professional interpreter service, service-learning interpreter program.

Houshen Li, Yifan Cui, Nikolaos Efstathiou, Bo Li, Ping Guo, (2022), "The reality of a pandemic may reduce healthcare workers willingness to work due to various reasons including inadequate preparedness of facilities and workplace safety. It is important to support frontline healthcare workers in order to maintain an adequate healthcare workforce in pandemic crises."

John S Akin, William H Dow, Peter M Lance, Chung-ping A Lon, (2005), stated that many studies report significant and apparently non-random reductions in healthcare utilization during this period. Scholars have tended to focus on the loss of insurance coverage and the growth of fees for services in explaining such reductions. An alternative explanation is growing inequality in access to care. We find evidence of relatively uneven changes to these indicators. Money charges for routine services increased consistently, though the trend was less pronounced in lower-income communities. Most communities experienced reductions in travel distance to clinics but increases in distance to hospitals. There were major improvements to the quality of care in wealthier rural areas, but not in poorer villages. Wealthier villages experienced less improvement in waiting time and drug availability. These trends appear to be closely associated with changing economic circumstances during the reform era.

Lulin Zhou, Xinglong Xu, Henry Asante Antwi and Linna Wang, Zhou et al. (2017), presented the study that the government of China in general could improve the efficiency of health resources allocation by improving the community health service system, rationalizing the allocation of health personnel, optimizing the allocation of material resources and enhancing the level of health of financial resources allocation.

Nabila Anggraini (2023) found out that the distance, the cost, and a dearth of services were all factors that limit people's ability to receive medical treatment when they need it. Healthcare access and usage were also found to be significantly influenced by socioeconomic status, education, and health literacy.

Putcharee Maneepairoj, Piyaluk Potiwan, (2020) indicated that a lot of problems in the system of providing the public health service of government not only the problem

at inequality in spending budget of various funds but also the people have knowledge and accessibility for the public healthcare service in low level, such as the disabled group.

Nirarat & Kidsom (2017) showed that the elderly in Bangkok had level of access to healthcare services with high scale sorting from high to low which are availability, accommodation, accessibility, acceptability and affordability respectively. According to multiple regression analysis, it was shown that income, health insurance and recognition have relationship in the same direction with access to healthcare services.

Seetamanotch (2002), indicated that the elderly had over all accessibility at moderate level (74.7%). Majority of other indexes were at moderate level included availability of health care (51.4%), geographical accessibility (75.6%), accommodation (75.9%), and affordability (81.6%) respectively. Acceptability was at a high level (47.2%). The factors that positively associated with accessibility to Universal Health Care Coverage were availability, satisfaction and frequency of health care utilization.

Xiaoli Jiang, (2013) showed the economic reforms since 1978 faced market principles to dominate the Chinese healthcare services. It has resulted in increasing inequality in healthcare services between richness and poverty, and urban and rural areas.

Konchom (2003) found out that factors affecting the distinct average number of receiving health care service in two areas even though the service is free of charge. They could be classified into 3 groups; (I) Group 1 consists of travel distance, travel time, travel expenses, and travel modes from individual resident to healthcare center. (2) Group 2 consist of level of education, location, and annual income. (3) Group 3 consists of 30 baht healthcare policy and a decision to use healthcare service, a data collection, and the knowledge of the existing of healthcare service center.

Table 2.1 Summary of Literature review

Factors	Nabila Anggraini (2023)	Ebenezer Dassah (2018)	Kamolporn Nirarat and Akaeanant Kidsom (2056)	Surangsri Seetamanotch (2002)	Chadaporn Konchom (2003)
Family caregiver			✓		✓
Family resources	✓		✓		✓
Community Resources		✓			✓
Community Welfare					
Accessibility of healthcare			✓		✓
Availability of healthcare		✓	✓	✓	
Facilities and Accommodation of healthcare			✓	✓	✓
Affordability of rural area people	✓	✓	✓		

In summary based on the selected research and studies above, the factors affecting healthcare access can be classified into several groups, including:

- Availability: limited availability of healthcare facilities and services, which requires people to travel for care and treatment.

- Acceptability: perceived low quality of care, which affects people's willingness to seek healthcare services.

- Geography: distance and transportation problems, which can make it difficult for people to access healthcare services.

- Affordability: cost of healthcare services, which may prevent people from seeking care.

- Socioeconomic status: income, education, and health literacy can significantly influence healthcare access and usage.

- Quality of care: improvements to the quality of care are necessary to ensure that people receive adequate healthcare services.

- Healthcare workforce: supporting frontline healthcare workers is essential to maintain an adequate healthcare workforce during pandemic crises.

- Health systems complexity: existing theoretical frameworks often fail to address the complexities involved in accessing healthcare services.

CHAPTER 3
RESEARCH METHODOLOGY

The study title, The Study on Healthcare access of rural residents in China: A Case Study of LISHUI city in Zhejiang Province, is a quantitative research and the survey method was conducted by using questionnaire surveys. It consists of the following steps;

1) Population and Samples
2) Research Instrument
3) Data Collection
4) Data Analysis

3.1 Population and samples

3.1.1 Population

The population in the study consists of residents in the rural areas of Lishui city, totaling 918,000 people.

3.1.2 Samples

The Samples in the study were residents of Lishui city the in rural areas consist of 400 people (Zhejiang Provincial Bureau of Statistics, 2023). The samples were gathered by calculating the sample size according to the formula of Yamane (1967) at a confidence level of 95 percents and a level of error of 5 percents. The formula for the data calculation is as followings;

$$n = \frac{N}{1 + Ne^2}$$

Where n = Sample size

N = Population size = 37,581

e = The margin error value of 0.05

$$n = \frac{918,000}{1 + (918,000)(0.05)^2}$$

$$= 399.83$$

The sample size was determined to be 399.83. However, during the process of collecting data, not all questionnaires will be returned in their entirety. There may be errors in some of the questionnaires. Therefore, it to increase the sample size to be 400 in order to ensure the data accuracy and the reliability.

After that, the researcher used proportional sampling and convenience sampling method to gather the number of samples in each area in proportion to the city's population as the table 3.1

Table 3.1 The populations and sample sizes of residents of Lishui city in rural areas, China.

No	Counties and Cities	Population	Sample
1	Qingtian	234,700	96
2	Jinyun	165,500	70
3	Liandu	127,800	53
4	Songyang	101,300	41
5	Suichang	83,400	37
6	Jingning	79,500	35
7	qingyuan	49,300	24
8	Longquan	43,500	25
9	Yunhe	33,000	19
	Total	**918,000**	**400**

Source: Lishui Municipal Bureau of Statistics, Zhejiang Province,2022

3.2 Research Instrument

3.2.1 The instrument employed was a questionnaire. The questionnaire was developed from various concepts, theories, and related studies to a conceptual framework and a questionnaire. The questionnaire was divided into 5 sections as followings;

Part 1: It is about the basic information of the respondents, consisting of gender, age, an occupation, income, status, and a type of medical care.

Part 2: It is about the factor affecting to the residents' satisfaction with medical security. The questionnaire was a 5 rating scale according to the method of Likert's scale consist of 8 items which are divided as followings;

Family and community factors

1) Family caregivers
2) Family resources
3) Community resources

Quality of healthcare services

1) Accessibility of healthcare
2) Availability of healthcare
3) Facilities and Accommodation of healthcare
4) Affordability to people in rural areas

Part 3: It is an open-ended question for the respondents. The sections are the questions asking about the problems and suggestion guidelines to evolve healthcare access of rural residents in China - A case study of Zhejiang Province.

In Part 2, the criteria for answering questions will use a scale of 5 levels with the following scoring criteria;

Table 3.2 The Score Interpretation Criteria

No	Level	Meaning
1	5	strongly agree
2	4	agree
3	3	Neutral
4	2	disagree
5	1	strongly disagree

From the above, a criteria interprets the meanings of each scale in the Table 3.3

Table 3.3 The Interpretation Criteria for item in questionnaire

MEAN Level	Opinion Level
4.51-5.00	Very High
3.51-4.50	High
2.51-3.50	neutral
1.51-2.50	Low
1.00-1.50	Very low

Source: Srisa-ard, Boonchom. (2011). Introduction of Research. 9th ed. Bangkok: Suviriyasarn printing. (in Thai)

3.2.2 The formation and accuracy of questionnaire forms

The questionnaire's validity and reliability were tested by the researcher and the examiners, then assessed the questionnaire and after that revised the questionnaire to prove the reliability as follows;

1) Study the theoretical concepts about access to public health services and related studies.

2) Prepare a questionnaire according to the conceptual framework in 3 sections and send a questionnaire to three experts to verify the validity of the content and the correctness of the language by evaluating index of Item Objective Congruence (IOC). It was found that IOC value was between 0.67-1.00 with a minimum average of 0.5 or higher and some topic items had to correct the language expression and clarity of the language according to the suggestion of the experts.

3) Collect the data with the similar groups to search for the Cronbach's Alpha with the value 0.985.

3.3 The process of collecting data

3.3.1 Rural residents in Lishui City requested a cooperation for data collection.

3.3.2 The questionnaire was distributed to the target samples.

3.3.3 The questionnaire had been collected and taken to the further steps.

3.4 Data analysis and statistics for data analysis

3.4.1 Data analysis

1) Check all received questionnaires and select the completed questionnaire.

2) Save the data in the software to analyze the data with the packaged program.

3) The data were analyzed by packaged program.

3.4.2 Statistics for data analysis

1) Find the reliability of the questionnaire by using the Alpha- coefficient and Cronbach's formula (1990).

2) Analyze the Chinese residence access range to the healthcare system in rural areas by using descriptive statistics to search for frequency, mean, percentage, and standard deviation.

3) Analyze the affected factors to the healthcare access by using multiple regression.

CHAPTER 4
RESEARCH RESULTS

4.1 Research Results

The chapter presents four dimensions of questionnaire and the data analysis in China's rural healthcare system. The subjects were 400 rural residents in Lishui City, Zhejiang Province in 2023. The data were obtained from the response results.

Part 1 The result of general data of samples or residents

Table 4.1 Descriptive analysis

		Frequency		
Items	**Categories**	**N**	**Percent (%)**	**Cumulative Percent (%)**
gender	Male	191	47.75	47.75
	Female	209	52.25	100
Age	20-30 years	44	11.00	11.00
	41-40 years	103	25.75	36.75
	41-50 years	115	28.75	65.5
	51-60 years	93	23.25	88.75
	Above 61 years	45	11.25	100
Income	1000-5000/month	125	31.25	31.25
	5000-10000/month	108	27.00	58.25
	10000-20000/month	67	16.75	75.00
	20000-50000/month	80	20.00	97.00
	Above 50000/month	20	5.00	100
Marriage status	married	243	60.75	60.75
	single	126	31.50	92.25
	separate	31	7.750	100
Member of Family (Including myself)	only 1	66	16.50	16.5
	2-3	161	40.25	56.75
	3-4	144	36.00	92.75
	above5	29	7.250	100
Right to medical care	right	369	92.25	92.25
	no	31	7.250	100

Table 4.1 Descriptive analysis (continue)

Frequency				
Items	**Categories**	**N**	**Percent (%)**	**Cumulative Percent (%)**
occupation	Civil servant	25	6.250	6.250
	student	43	10.75	17.00
	Financial worker	61	15.25	32.25
	Legal worker	59	14.25	49.50
	Medical staff	52	13.00	62.50
	Freelancer	54	13.50	76.00
	Agricultural personnel	69	17.75	93.75
	Other job in rural	37	9.25	100
where to seek medical treatment	Village clinic or community service station	153	38.25	38.25
	Township health center	164	41.00	79.25
	Medical institutions above county level	83	20.75	100
Total		**400**	**100**	**100**

The samples consisted of 400 participants from rural residents in China. As it can be seen from the above Table 4.1, in terms of gender distribution, the majority of the samples are female 52.25% and male 47.75%. "50years old or older" accounted for 35.00%. More than 40% of the salary sample chose "1000-5000/ month". 31.25% of the samples are 5000-10000 / month. In terms of marital status, more than 60percent of the sample was "married." From the distribution of family members, the majority of the samples were "2-3", with a total of 161 accounting for40.25%. I in terms of occupation, the proportion of agricultural workers is the highest, 17.75%. Among rural residents, more people choose to go to Village clinic or community service station and Township health center, accounting for 79.25%

Part 2 the result of Mean and S.D analysis of family factor, social supports and community resources

Table 4.2 Mean, standard deviation, meaning and rank of residents in Lishui on factor of Family caregiver

Family caregiver	Mean	Std. Deviation	meaning	rank
1. Personnel can provide convenient life services.	3.38	.888	Moderate	3
2. Personnel can provide cleaning services.	3.52	.893	Moderate	1
3. Personnel are guaranteed physical and mental health.	3.41	.905	Moderate	2
total	**3.43**	**0.794**	**Moderate**	

From Table 4.2, it revealed that the influence of family caregiver on the health care system was generally moderate (X =3.43, SD= .794). When considered in each aspect, the highest aspect was personnel providing cleaning services (X =3.52, SD=.893) The lowest aspect was personnel providing convenient life services (X =3.38, SD=.888)

Table 4.3 Mean,standard deviation,meaning and rank of residents in Lishui on factor of Family resources

Family resource	Mean	Std. Deviation	meaning	rank
1. Have a stable financial source.	3.35	.902	Moderate	3
2. The family economic base can withstand emergencies (such as disease).	3.46	.877	Moderate	1
3. Families support health care participation.	3.41	.862	Moderate	2
total	**3.40**	**.771**	**Moderate**	

From Table 4.3, it revealed that the influence of family resources on the healthcare system was generally moderate (X =3.40, SD= .771). When considered in each aspect, the highest aspect was the family economic base withstanding emergencies such as disease (X =3.46 SD=.877). The lowest aspect was having a stable financial source (X =3.35, SD=.902)

Table 4.4 Mean, standard deviation, meaning and rank of residents in Lishui on factor of Community Resources.

Social networks	Mean	Std. Deviation	meaning	rank
1. Convenient transportation facilities	3.30	.887	Moderate	3
2. Community medical facilities are adequate.	3.38	.898	Moderate	1
3. Community drug resources are sufficient.	3.31	.914	Moderate	2
total	**3.32**	**.804**	**Moderate**	

From Table 4.3, it revealed that the influence of community resources on the healthcare system is generally moderate (X =3.32, SD= .804). When considered in each aspect, the highest aspect was community medical facilities (X =3.38 SD=.898). The lowest aspect was convenient transportation facilities (X =3.30, SD=.887).

Table 4.5 Mean, standard deviation, meaning and rank of residents in Lishui on factor of community Welfare

community Welfare.	Mean	Std. Deviation	meaning	rank
1. Access to public benefits such as health care insurance.	3.42	.828	Moderate	2
2. The government subsidizes the health care system adequately.	3.40	.843	Moderate	3
3. Enterprises or themselves can bear the expenses needed for social public welfare.	3.43	.813	Moderate	1
total	**3.41**	**.577**	**Moderate**	

From Table 4.5, it revealed that the influence of community welfare on the healthcare system is generally moderate (X =3.41, SD=.577). When considered in each aspect, the highest aspect was enterprises or themselves bearing the expenses needed for social public welfare (X =3.43 SD=.813). The lowest aspect was subsidizing the healthcare system adequately by the government (X =3.40, SD=.843).

Table 4.6 Mean, standard deviation, meaning and rank of residents in Lishui on factors of accessibility of healthcare services

Accessibility of healthcare services.	Mean	Std. Deviation	meaning	rank
1. Equal access to medical services	3.11	.989	Moderate	3
2. Universal access to healthcare systems	3.08	.993	Moderate	4
3. Access to healthcare services is extensive.	3.14	.998	Moderate	2
4. Convenient access to medical resources	3.19	.932	Moderate	1
total	**3.12**	**.875**	**Moderate**	

From Table 4.6, it revealed that the influence of accessibility on the healthcare services system is generally moderate (X =3.12, SD= .875). When considered in each aspect, the highest aspect was convenient access to medical resources (X =3.19 SD=.932). The lowest aspect was universal access to healthcare systems (X =3.11, SD=.993).

Table 4.7 Mean, standard deviation, meaning and rank of residents in Lishui on factor of availability of healthcare.

Availability of healthcare	Mean	Std. Deviation	meaning	rank
1. Government provides adequate medical subsidies.	3.15	1.007	Moderate	2
2. Provision of adequate medical facilities	3.06	.949	Moderate	3
3. Have adequate medical staff.	3.15	1.002	Moderate	1
total	**3.12**	**.897**	**Moderate**	

From Table 4.7, it revealed that the influence of availability on the healthcare system was generally moderate (X =3.12 SD=.897. When considered in each aspect, the highest aspect was adequate medical staff (X =3.15 SD=1.002). The lowest aspect was provision of adequate medical facilities (X =3.06, SD=.949).

Table 4.8 Mean, standard deviation, meaning and rank of residents in Lishui on factor of Facilities and Accommodation of healthcare.

Accommodation of healthcare.	Mean	Std. Deviation	meaning	rank
1. The health care system is well equipped.	2.93	.982	Moderate	2
2. Medical staff provide high quality medical and health services.	2.90	.984	Moderate	3
3. Have enough beds to accommodate patients.	2.99	.973	Moderate	1
total	**2.93**	**.896**	**Moderate**	

From Table 4.7, it revealed that the influence of facilities and accommodation on the healthcare system was generally moderate (X = 2.93, SD =.897). When considered in each aspect, the highest aspect was having enough beds to accommodate patients (X = 2.99, SD =.973). The lowest aspect was medical staff providing high quality of medical and health services (X = 2.90, SD =.984).

Table 4.9 Mean, standard deviation, meaning and rank of residents in Lishui on factor of Affordability of rural area people.

Affordability of rural area people	Mean	Std. Deviation	meaning	rank
1. Residents are charged very reasonably in the health care system.	2.75	1.011	Moderate	1
2. The increase in costs for you and your family in the health care system is proportional to the increase in family income.	2.74	1.045	Moderate	2
3. The government has provided adequate medical resources and Reasonable price.	2.67	1.017	Moderate	3
total	**2.72**	**.956**	**Moderate**	

From Table 4.9, it revealed that affordability of rural area people on the health care system is generally moderate (X = 2.72, SD =.956). When considered in each aspect, the highest aspect was that residents are charged very reasonably in the healthcare system (X = 2.75, SD =1.011). The lowest aspect was that the government has provided adequate medical resources and reasonable price (X = 2.67, SD = 1.017).

Table 4.10 Mean, standard deviation, meaning and rank of residents in Lishui on all the factor.

Factor level information	Mean	Std. Deviation	meaning	rank
1. Family caregiver	3.43	0.83	Moderate	1
2. Familcy Resources	3.39	0.82	Moderate	3
3. Social Support	3.32	0.85	Moderate	4
4. Community welfares	3.41	0.79	Moderate	2
5. Quality of healthcare services provision	2.98	0.82	Moderate	5
total	**3.31**	**0.82**	**Moderate**	

From Table 4.10, the table summarized that the factor level information based on the mean and standard deviation scores. The factors are ranked based on their mean scores, with the family caregiver aspect receiving the highest score (3.43), followed by community welfares (3.41), family resources (3.39), social support (3.32), and quality of healthcare services provision (2.98). All factors were rated as moderate.

Table 4.11 Mean, standard deviation, meaning and rank of residents in Lishui on factor of Residents' satisfaction with medical security.

Residents' satisfaction with medical security	Mean	Std. Deviation	meaning	rank
1. The satisfaction with doctor's medical treatment	3.24	.936	Moderate	1
2. The satisfaction with the convenience of government medical service	3.02	1.081	Moderate	3
3. The satisfaction with the current government health care system	3.04	1.021	Moderate	2
4. The satisfaction with the sufficiency of government medical services	3.01	1.022	Moderate	4
total	**3.07**	**0.807**	**Moderate**	

From Table 4.11, it revealed that all the factory on residents' satisfaction with medical security is generally moderate (X =3.07, SD=.807). When considered in each aspect, the highest aspect was the satisfaction with doctor's medical treatment (X =3.24, SD=.936). The lowest aspect was the satisfaction with the sufficiency of government medical services (X =3.01, SD=.1.022).

Table 4.12 Mean, standard deviation, meaning and rank of residents in Lishui on all the factors of health care system.

Factor	Mean	Std. Deviation	meaning	rank
1. Family Resources, social network and community resources	3.39	.692	Moderate	1
2. Quality of healthcare services	2.98	.831	Moderate	3
3. Residents' satisfaction with medical security	3.07	.807	Moderate	2
total	**3.14**	**.816**	**Moderate**	

From Table 4.12, it revealed that all the factory on of healthcare system is generally moderate (X = 3.14, SD =.896). When considered in each aspect, the highest aspect was enabling factors and family resources (X = 3.39, SD =.692). The lowest aspect was quality of healthcare services (X = 2.98, SD =.831).

Part 3: The Multiple Regression Analysis on factors affecting satisfaction on healthcare access of rural residents in Lishui city (Stepwise Multiple Regression Analysis)

Table 4.13 The results of the VIF and Tolerance index

factor	Tolerance	VIF
1. Family caregiver	.555	1.802
2. Familcy Resources	.474	2.109
3. Social Support	.363	2.758
4. Community welfares	.373	2.683
5. Quality of healthcare services provision	.356	2.812

According to Table 4.13, the tolerance values ranged from 0.356 to 0.555 and the VIF values ranged from 1.802 to 2.812. Both values were within the range considered to have low multicollinearity, which was in line with the initial agreement of using statistical analysis in which tolerance values should be greater than 0.10 and VIF values should be less than 10 (Vanichbuncha, 2007). Therefore, it could be concluded that the predictor variables used in the analysis did not have a significant multicollinearity problem.

Table 4.14: Results of factors affecting residents' satisfaction on healthcare access of rural residents in Lishui city (Stepwise Multiple Regression Analysis)

Factors	B	SEb.	β	t	P
Constant	0.294	0.111		2.637	0.009*
1.Quality of healthcare services provision (X5)	0.483	0.047	0.496	10.206	0.000*
2. Social Support (X3)	0.163	0.045	0.174	3.611	0.000*
3. Community welfares (X4)	0.136	0.048	0.134	2.825	0.005*
4. Family Resources (X2)	0.101	0.041	0.103	2.456	0.014*
$R=0.668$, $R^2=0.665$, $F=199.005$					

*$P < 0.05$

Table 4.14 shows factors affecting the satisfaction of rural residents in accessing healthcare services. The variables included in the study were quality of healthcare services provision (X5), social support (X3), community welfares (X4), and family resources (X2). The table presents the regression coefficients, standard errors, t-values, and p-values for each variable.

The regression analysis revealed that quality of healthcare services provision (X5), social support (X3), community welfares (X4), and family resources (X2) were significant predictors on the satisfaction of rural residents in accessing to healthcare services. Specifically, quality of healthcare services provision had the highest positive impact ($\beta = 0.496, p < 0.001$), followed by social support ($\beta = 0.174, p < 0.001$), community welfares ($\beta = 0.134$, $p = 0.005$), and family resources ($\beta = 0.103$, $p = 0.014$). The overall model was significant ($F = 199.005$, $p < 0.001$) The R-squared value of 0.665 suggests that the model explains 66.5% of the variance in healthcare services access.

The prediction equation in raw score form for predicting healthcare accessibility in rural areas based on the significant predictors is:

Healthcare access = .294 + .483 (Quality of healthcare services provision) + .163 (Social support) + .136 (Community welfares) + .101 (Family resources).

The study's conclusion is that quality healthcare services, social support, community welfares, and family resources are significant predictors on the satisfaction of rural residents in accessing to healthcare services. Improving the quality of healthcare services is crucial to enhance healthcare accessibility, while providing social support and

community welfares can also contribute to improving access. The study emphasizes the importance of addressing these factors to ensure equal access to healthcare services in rural areas.

Table 4.19 Mainly problems on healthcare access of rural resident in Lishui, Zhejing, China

No.	Mainly problems	Number of respondents	percentage
1	The drain of doctors and nurses resources in rural areas is serious, and medical personnel are in short supply.	75	33.75%
2	High medical price	37	16.65%
3	Shortage of medical facilities e.g. specialized medical equipment and hospital beds	26	11.70%
4	Unbalanced allocation of medical resources and rural medical resources are relatively scarce compared with urban ones.	25	11.25%
5	Subsidies in the health care system take a long time and are cumbersome.	17	8.1%
	total	180	81.45%

Table 4.19 showed the results of a survey on the main problems faced by the healthcare system. The table listed five problems and the number of respondents who identified each problem, as well as the percentage of total respondents.

The most identified problem was the shortage of doctors and nurses in rural areas, with 75 respondents (33.75%).

The second identified problem was high medical prices, with 37 respondents (16.65%).

The third identified problem was the shortage of medical facilities, with 26 respondents (11.70%).

The fourth identified problem was the unbalanced allocation of medical resources, with 25 respondents (11.25%).

The fifth identified problem was the slow and cumbersome process of receiving subsidies in the healthcare system, with 17 respondents (8.1%).

In total, 180 respondents (81.45%) identified one of the five problems as a major issue facing the healthcare system.

Table 4.20 Mainly suggestions for improvement on healthcare access of rural resident in Lishui, Zhejing, Chin

No.	Mainly suggestions	Number of respondents	percentage
1	Decrease the proportion of self-funded medical treatment and raise the standard of systematic subsidies.	78	35.10%
2	Accelerate the construction of more rural medical service centers.	31	13.95%
3	Strengthen the specialization of medical services, e.g. geriatric diseases, gynecological diseases, etc.	23	5.85%
4	Train more health care doctors and nurses.	23	5.85%
5	Improve medical efficiency.	19	8.55%
	total	180	69.3%

Table 4.20 presented the suggestions provided by the respondents regarding the evolvement of the healthcare system. The table included five suggestions, along with the number of respondents who gave each suggestion and the percentage of total respondents.

The most commonly evolvement was to decrease the proportion of self-funded medical treatment and to raise the standard of systematic subsidies, with 78 respondents (35.10%) supporting the suggestion.

The second evolvement was to accelerate the construction of more rural medical service centers, with 31 respondents (13.95%) supporting the suggestion.

The third evolvement was to strengthen the specialization of medical services, such as geriatric diseases and gynecological diseases, with 23 respondents (5.85%) supporting the suggestion.

Both training more healthcare doctors and nurses and evolving medical efficiency received equal supports from 23 respondents (5.85%).

In total, 180 respondents (69.3%) provided one of the five suggestions for improving and evolving the healthcare system.

CHAPTER 5
CONCLUSION AND RECOMMENDATION

The chapter presents the conclusion that personal factors, social factors, family factors, and the quality of medical care service including the equalization of medical service resources, the quality and level of medical service, and the impact of medical price on medical resources. It also affects the awareness of residents to participate in the basic medical insurance system. The above three aspects affect the social security satisfaction of the residents in the social healthcare system, and taking the rural residents in Lishui City, Zhejiang Province as follow:

5.1 The Result of Study

Objective 1: Overall level of access satisfaction to the healthcare system of rural residents in LISHUI city in Zhejiang province was at moderate level (Mean= 3.18 and S.D. = .807 The ranking from the highest to the lowest levels of significance was as followings; Family Caregiver, Community Welfare, Family Resources, Community Resources, Accessibility of Healthcare, Availability of Healthcare, Healthcare Facilities and Accommodation, and Affordability for Rural Area Residents respectively.

Objective 2: Enabling factors, family resources and quality of healthcare services significantly influenced the access of healthcare services of LISHUI city residents in Zhejiang province, China at a 95 % as the P-Value (Sig.) was less than 0.05 alpha value.

Objective 3: The policy guidelines in public healthcare access for Chinese residents of LISHUI city in Zhejiang province were (1) to decrease the proportion of self-funded medical treatment and to raise the standard of systematic subsidies, (2) to accelerate the construction of more rural medical service centers, (3) to strengthen the specialization of medical services e.g. geriatric diseases, gynecological diseases, etc., (4) to train more healthcare doctors and nurses, (5) to improve medical efficiency.

According to the data collected by the survey, 52.25% of the respondents were female. 63.25% of the respondents were over 40 years old. 70.07% of the respondents had a bachelor's degree. 58.25% of the respondents had an annual income of less than 10,000 yuan. 60.75% of the respondents were married. 56.75% of the respondents had a family of three or fewer people. 70.32% of the respondents were married. 92.25% of rural residents believed that a social healthcare system was necessary. Among the various occupations employed by rural residents, agricultural personnel account for the highest proportion at17.75%. The proportion of consultations at clinics and towns health centers reached at 79.25 %.

The results showed that rural residents in Lishui City had a high degree of participation in the social medical security system, and there were significant correlations and satisfaction in two dimensions. Among the factors affecting the quality of medical services, the satisfaction of facilities and accommodation of healthcare and affordability of rural area residents were relatively low. There were still some variations in the quality of medical services in varied hospitals and clinics. At the same time, from the perspective of individual family factors, rural residents were more sensitive to the price of medical services, especially those with income uncertainty sources and low wage levels. In terms of social factors, if the medical price of the insured can be reduced, the satisfaction and happiness of the residents will be significantly better.

5.2 Research Discussion

The result of objective 1 found that overall mean of the healthcare system factor was moderate. The highest ranking factor was the family caregiver, followed by community welfares, family resources, social support, and quality of healthcare services provision respectively. The quality of healthcare services provision had the lowest mean score among the five factors. The finding correlated to Seetamanotch (2002) with the results that healthcare system was in moderate level, In contrast, the finding did not correlate to Kidsom et al (2017) who indicated that the healthcare system was in high level. The variations of previous study findings may be due to various factors such as the variations between the national conditions of China and Thailand. First of all, China's

population was very large, and the geographical scope was also very broad compared with Thailand, which further increases the difficulty of rural healthcare promotion. Secondly, Lishui is one of the less developed cities on China's east coast, while Nirarat (2560) showed the study that Bangkok is more developed city in Thailand.

The result of objective 1 found that the quality of healthcare services provision, the social support, the community welfares, and the family resources were significant predictors of healthcare accessibility in rural areas. The quality of healthcare services provision had the highest positive impact, followed by social support, community welfares, and family resources. The study concluded that addressing these factors could improve healthcare accessibility for rural residents. The findings aligned with the healthcare access theory proposed by Aday and Anderson (1974), which suggested that healthcare access was influenced by factors such as healthcare policy and population characteristics. Additionally, Penchansky and Thomas (1981) explain that the assessment of healthcare access included considerations of availability, accessibility, affordability, and accommodation respectively. These results were also consistent with previous studies conducted by Swe et al. (2019) and Niramita and Promphakping (2019), which found out that factors such as family relationships, economic status, income, and social networks had an impact on healthcare access. Lastly, Ebenezer Dassah (2018) stated that four major factors; availability, acceptability, geography and affordability were influenced to the healthcare services. Therefore, in the study, the factors were found to have an impact on the healthcare access of rural residents with low income and family support, as well as social factors affecting access to healthcare services.

The result of last objective were found that the policy guidelines in public healthcare access for Chinese residents of LISHUI city in Zhejiang province were (1) to decrease the proportion of self-funded medical treatment and raise the standard of systematic subsidies, (2) to accelerate the construction of more rural medical service centers, (3) to strengthen the specialization of medical services e.g. geriatric diseases, gynecological diseases, etc., (4) to train more health care doctors and nurses, (5) to improve medical efficiency. Nabila Anggraini (2023) found out that the high proportion of unmet health care needed and the low utilization rate of health care indicated the poor accessibility and universality of healthcare in rural areas and the need to strengthen the

increase of health care access and utilization in rural areas. Chadaporn Konchom (2003) stated that there were more healthcare centers to increase residents' income and evolved the services and the efficiency of medical individuals.

The Conclusion of Research

The conclusion was that quality healthcare services, social support, community welfares, and family resources were significant predictors of healthcare accessibility in rural areas. Improving the quality of healthcare services was crucial to enhance healthcare accessibility, while providing social support and community welfares could also contribute to improve the access. The study emphasizes the significance of addressing the factors to ensure equal access to healthcare services in rural areas.

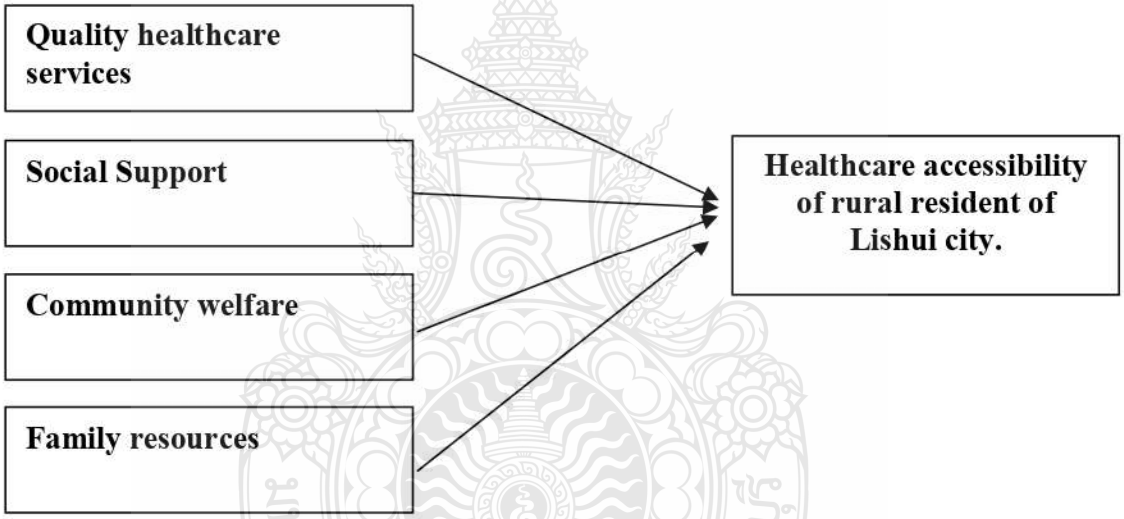

Figure 5.1 the summary of research
Source: Analyze and summary by the researchers

5.3 Research Recommendation

Based on the findings, there are several recommendations for different sectors to evolve healthcare accessibility in rural areas;

1. The government and public health agencies should focus on improving the quality of healthcare services in rural areas. It can be achieved by investing in healthcare infrastructure, providing training and education for healthcare providers, and ensuring

that healthcare services are available and accessible to all. Additionally, the government should provide financial Support such as financial incentives or subsidies for healthcare professionals who choose to work in rural areas. This can help attract and retain talented medical personnel in underserved regions.

2. Families in rural areas should take advantage of the available resources to ensure that their members receive quality healthcare services. They can also participate in community outreach programs to promote health education and awareness.

3. Community organizations should engage with the government to work for providing social support and community welfares to rural residents. This can include organizing transportation services to healthcare facilities, providing health education and outreach programs, and creating support networks for those in need.

Overall, it is crucial to address the factors that influence healthcare accessibility in rural areas to ensure that all residents have equal access to quality healthcare services. Collaboration between different sectors is essential in achieving this goal.

The suggestions for Future Research

Based on the findings of the study, here are some recommendations for further studies;

1. Conduct mixed-methods research to gain a more comprehensive understanding of healthcare accessibility in rural areas. This can involve combining quantitative data analysis with qualitative data collection methods, such as focus groups and interviews to provide a more nuanced understanding of the issue.

2. Explore the potential impact of technology on healthcare accessibility in rural areas. This can include examining the effectiveness of telemedicine and other digital health solutions in improving access to healthcare services.

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Appendix A: Questionnaire

A Questionnaire of research
The study on healthcare access of Rural residents in China -- A case study of Lishui city in Zhejiang Province

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Instructions

1. This questionnaire surveys rural residents of Lishui city in Zhejiang Province on medical and health services, including the following three parts:

Part 1 the basic information of the respondents or rural residents who participate in the questionnaire survey

Part 2 the evaluation of the rural residents to the medical and health system services in Zhejiang Province.

Part 3 the problems and policy recommendation to improve the healthcare access of people in rural area in Lishui city, Zhejiang Province

1. Please answer all the questions.

Each of your answers is the malpractice and improvement to the operation of social medical care system.

Please make a tick (✓) in the following box to give your consent:

☐ I agree to take part in this questionnaire.

Thank you for your kind cooperation in completing this questionnaire and returning it as soon as possible

Part 1 The basic information of the respondents or rural residents who participate in the questionnaire survey

Instructions: Please indicate your personal information by placing a tick (√) in the parentheses corresponding to your answer.

1.Gender

☐ Male ☐ Female

2.Age

☐ 20-30 years ☐ 41-40 years

☐ 41-50 years ☐ 51-60 years

☐ Above 61 years

3. Income (Yuan China)

☐ 100-5000 /month ☐ 5001-10000/month

☐ 10001-20000/month ☐ 20001-50000/month

☐ Above 50000/month

3.Marriage status

☐ Single ☐ Married ☐ Separated or divorce

4. Member of Family (Including questionnaire survey respondents themselves)

☐ only 1 ☐ 2-3

☐ 3-4 ☐ above 5

5. Right to medical care

☐ has right ☐ no right to Medicare

6.Occupation

☐ State organ worker ☐ Students

☐ Financial workers ☐ Legal workers

☐ Medical workers ☐ Freelancers

☐ Agricultural workers ☐ Other job occupations

7.Where to seek medical treatment

☐ Village clinic or community service station ☐ Township health center

☐ Medical institutions above county level

Part 2 Questions about the opinion with the level of service in each type of health care system.

Instructions: Please indicate the applicable answer in the corresponding according to your opinion

1 = Strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly agree

item	Questionnaire	(1)	(2)	(3)	(4)	(5)
Family factors, social network and community resources						
1. Family caregiver	1.1 You receive family support for basic health care.					
	1.2 Your family support for your trip to the medical facility					
	1.3 You receive family support in taking care of your physical health.					
2. Family resources	2.1 Do you feel that family support affects your access to health care					
	2.2 Your family support financial for going to healthcare					
	2.3 Your family support in keeping track of appointments and attending treatment against the disease?					

3. Social Networks	3.1 your friend or co-worker can take care of your health when you're sick.					
	3.2 Your relatives provide assistance in accessing health services.					
	3.3 Your organization provides assistance in accessing public health services.					
4. Community Resources	4.1 Community provide convenient transportation facilities					
	4.2 Community helps for medical facilities					
	4.3 community provides assistance in accessing public health services.					
	4.4 The Community subsidizes the health care system adequately					
Quality of healthcare services						
5. Accessibility of healthcare	5.1 Equal access to medical services					
	5.2 Universal access to health care systems					
	5.3 Access to health services is extensive					
	5.4 Convenient access to medical resources					
6. Availability of healthcare	6.1Government provides adequate medical subsidies					
	6.2 government provision of adequate medical facilities					
	6.3Have adequate medical staff					

7. Facilities and Accommodation of healthcare	7.1The health care system is well equipped					
	7.2 Medical staff provide quality medical and health services					
	7.3 hospital has enough beds to accommodate patients					
8. Affordability of rural area people	8.1 Residents are charged very reasonably in the health care system.					
	8.2 The increase in costs for you and your family in the health care system is proportional to the increase in family income					
	8.3 The government has provided adequate medical resources and Reasonable price					
9. Residents' satisfaction with medical security	9.1 the satisfaction with doctor's medical treatment					
	9.2 the satisfaction with the convenience of government medical service					
	9.3 the satisfaction with the sufficiency of government medical services					
	9.4 the satisfaction with the current government health care system					

Part 3 Problem and suggestion for healthcare access of Rural residents in China - - A case study Lishui city in Zhejiang Province

3.1 Problems of healthcare access of Rural residents Province,China

……

……

……

3.2 Suggestions for healthcare access of Rural residents in Zhejiang Province, China

……

……

……

Thank you for your kindness in answering the questionnaire.

Appendix B: Reliability

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
V1	99.796153846153900	613.260	.650	.985
V2	99.596153846153910	605.102	.798	.984
V3	99.862820512820560	606.083	.794	.984
V4	99.896153846153900	606.084	.739	.984
V5	99.862820512820560	603.770	.847	.984
V6	100.062820512820560	606.850	.804	.984
V7	99.762820512820550	605.033	.838	.984
V8	99.762820512820550	596.828	.884	.984
V9	99.762820512820550	603.628	.871	.984
V10	99.629487179487230	604.430	.933	.984
V11	99.696153846153890	614.794	.582	.985
V12	99.762820512820550	602.315	.902	.984
V13	99.787820512820560	605.433	.967	.984
V14	99.862820512820560	603.904	.844	.984
V15	99.896153846153900	600.960	.848	.984
V16	99.829487179487230	600.906	.869	.984
V17	99.896153846153900	606.688	.824	.984
V18	99.829487179487230	600.755	.873	.984
V19	99.996153846153890	608.167	.823	.984
V20	99.862820512820560	600.638	.882	.984
V21	100.229487179487220	600.745	.795	.984

V22	100.196153846153890	599.742	.801	.984
V23	99.996153846153890	599.001	.886	.984
V24	100.262820512820550	601.879	.788	.984
V25	100.262820512820550	598.519	.758	.984
V26	100.529487179487220	594.968	.820	.984
V27	100.050000000000030	601.042	.971	.984
V28	99.962820512820560	599.809	.858	.984
V29	99.996153846153890	601.744	.725	.985
V30	100.196153846153890	605.281	.692	.985
V31	99.929487179487230	608.775	.619	.985
V32	100.021153846153900	603.532	.896	.984

Reliability Statistics

Cronbach's Alpha	N of Items
.985	32

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
103.162820512820560	642.700	25.35152392673572	32

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