

Research on the Construction of Urban Community Health Service Chain Model

Li Wang

School of Public Affairs and Administration
University of Electronic Science and Technology of China
Chengdu, China

Liwen Liang

School of Public Affairs and Administration
University of Electronic Science and Technology of China
Chengdu, China

Abstract—According to the current status of urban community health service, based on the collection of domestic community health service related literature, it uses the grounded theory to conduct qualitative analysis, builds the urban community health service chain model according to the service chain theory, and sorts out the community health service content as well as the corresponding organizations that provide the service.

Keywords—urban community; service chain; grounded theory; community health service

I. INTRODUCTION

Community health service is a branch of public service and a key link in urban community and health care development. The World Health Organization (WHO) has pointed out that grassroots community health services can solve more than 80% of urban residents' health problems.

In addition, with the improvement of people's living standards, the scientific concept of health has gradually been recognized and accepted by the public. The public's demand for medical care has been upgraded from the treatment of existing diseases to the maintenance of self-physical health and disease prevention, which caused residents' demand for medical and health service dramatically increased, and community health services are facing enormous challenges.

In 2015, the "Community Health Service Improvement Project" initiated by the country has formulated the goal of "significant improvement of the environment of community health service institutions, gradual improvement of service functions and substantial improvement of service quality by 2020", and proposed to adhere to the principles of "demand-oriented and perfect services", "people-oriented, promoting health", "continuous improvement, quality improvement" and "innovation practice, perfecting the system", and improving the development requirements of "service capability", "quality of service", "management level" and "guarantee conditions" [1].

II. THE CURRENT SITUATION OF RESEARCH

The existing research literature on community health service demands in China is mainly divided into two categories, one is the demand survey and analysis for the staff

of community health service institutions, and the other is the demand survey and analysis conducted for the residents.

In the staff-oriented demands study, Liu Hongyu et al. (2017) used the Health Manpower Needs Analysis Tool (WISN) developed by the World Health Organization to sample five community health service agencies in Yinchuan and Guyuan, analyze the demands of community health service staff [2]. Yang Xuesong et al (2016) used a cluster random sampling method to sample and then conducted a questionnaire survey to analyze the training demands of general practitioners and administrators of infectious diseases institutions in the eight districts of Beijing City [3]. Zheng Chanjiao et al. (2015) used questionnaires to investigate and analyze the demands of health technicians in Guangdong Community Health Service Centers on service capacity training [4]. Wang Haiyin et al. (2013) conducted a questionnaire survey of clinical medical staff in 44 community health service centers in 4 districts of Shanghai to explore their demand for health-appropriate technologies [5].

In the study of residents' demands, Zhang Jianfeng et al. (2010) conducted a household survey of empty nest aged 60 and above in Hefei city through a questionnaire survey, and analyzed the factors affecting the demand for community health services by empty nest [6]. Chen Ying (2016) analyzed the demands and characteristics of medical care for the elderly in Hong Kong, and put forward opinions on the demand analysis of medical services for the elderly in China [7]. Ma Guofang et al. (2017) conducted a sample questionnaire survey and interviews with migrants aged 16 to 60 in Urumqi to analyze the demands of the floating population for community health service projects [8].

In summary, in the field of community health service demand in China, literature research almost stops at the status quo investigation, the method is single, the service content is incomplete, and the service organization is missing, which makes the community health service lacks a viable development path on the aspects of meeting the diversified, multi-level and multi-layer demands of residents. There is an urgent need to clarify the content of community health services.

III. SERVICE CHAIN THEORY

Service Chain (SC) refers to a supply chain formed by a certain supporting process for an organization that has a

specific service capability to meet the needs of the service object.

The service chain is composed of "nodes", that is, enterprises and institutions that provide the required services for the service objects. These "nodes" form a "chain" through certain forms, and provide a full range of services for the service objects through the "service chain" in order to realize its own interests. If the corresponding service "node" has not yet been generated, the "node" will be quickly generated to meet the demand under market regulation, and the new "node" that meets the "chain" requirements can be quickly integrated into the entire service chain. [9].

This paper intends to build an urban community health service chain model based on the service chain theory, sort out the health service demands of urban communities and the supply institutions of service demand, and provide decision support for the improvement of the quality of health services in urban communities.

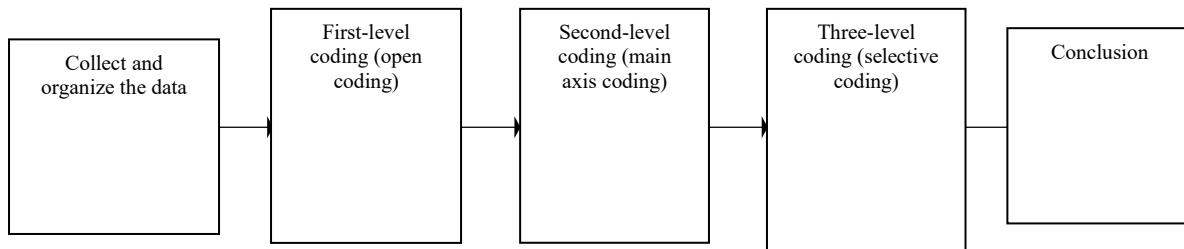


Fig. 1. Qualitative analysis steps of urban community health service demands.

B. Data Source and Collection

The data sources of this paper include China National Knowledge Infrastructure (CNKI), Wanfang Data Knowledge Service Platform, and Weipu Knowledge Resource System, and write and search "Theme = Community Health Service Demand". In order to ensure the credibility and quality of the research literature, the source of the literature was limited to Chinese core journals and CSSCI searches. After excluding data that did not meet the research of this paper, 96 literatures were finally collected.

In this paper, the qualitative research software Nvivo11.0 is used to encode the collected documents in three-level coding through its powerful coding function.

C. Qualitative Analysis

Open coding is the process of identifying, decomposing, and conceptualizing the content of a document. In the process, the initial concept is obtained by narrowing the scope. This paper adheres to the concept of "continuous comparison" of grounded theory, summarized all services for community health service demands in local language, after several analyses, 103 initial concepts and 24 generics are obtained, as shown in "Table I":

IV. QUALITATIVE ANALYSIS OF URBAN COMMUNITY HEALTH SERVICE DEMANDS

A. Analysis Steps

According to the operation procedure of the grounded theory, the analysis steps are as follows: The first step is to collect and organize the data. The second step, first-level coding to the data (also known as open coding), that is, the researcher reads the collected texts word by word in a free and open manner, analyzes the attributes displayed by the documents themselves, and then downgrade it step by step based on the criteria of grounded theory. The third step, the second-level coding (also called the main axis coding) is a relatively open coding, thereby discovering and establishing the relationship between the various functional categories, thus showing the links between the various parts of the document. The fourth step, the three-level coding (also known as selective coding), is that the researcher systematically analyzes the existing generics, and then promotes the concept again, and finally selects the "core generics" and builds the model. The specific analysis steps are shown in "Fig. 1".

TABLE I. INITIAL CONCEPTS AND GENERICS

Generic	Conceptualization	
Community Health Service Publicity	Lack of awareness of community health services Lack of trust in community health care workers Increase publicity on community health services Guide the demand for community health services	
Medical Service System	Medical insurance system Family doctor system Two-way referral system Service evaluation system	Quality management system
Medical Service Expense	Develop a reasonable service price Improve payment method	
Financial Investment of Community Health Service	Fundraising and financial compensation for community health services Include Community health service institutions into medical insurance Special fund for medical assistance	

Generic		Conceptualization	
Service Agency for System	Agency Policy	Government Department of Finance	Community committees
		Department of Civil Affairs	Community volunteer group
		Department of Human Resources and Social Security	
		City Health and Family Planning Bureau	
		Culture, Radio, Film and Television Press and Publication Bureau	
	Basic Medical Service	Common disease diagnosis and treatment	Intravenous injection
		Emergency treatment	Trauma treatment
		Regular medical examination	Inpatient service
		Prescription	Floating population community health service window
	Family Medical Service	Family visit	Family doctor
		Family care	Family nurse
	Medical Referral Service	Family bed	
	Basic Medical Service Support Agency	Green channel of medical referral service	
		Follow-up visit for medical referral service	
	Health Education	General hospital	
		Specialist hospital	
		Technical steering group	
	prevention knowledge of common disease		
	prevention knowledge of infectious disease		
	prevention knowledge of chronic disease		
	prevention knowledge of cancer		
	Nutritional diet guidance		
	Lifestyle guidance		
	Disease Prevention and Control	Management of infectious disease	
		Monitoring and treatment of epidemiology, endemic disease, occupational disease	
		Prevention of chronic disease	
	Mental Health Service	Psychiatric community management	
		Mental health guidance	
	Psychological Counseling		
	Psychotherapy		
	Health Service care	Children health care	
		Women health care	
	Elderly health care		
	Family health care		

Generic		Conceptualization	
Rehabilitation Service	Disability rehabilitation guidance	Rehabilitation training	Rehabilitation Center
Family Planning Technical Service	Family planning technical guidance		
Chinese Medical Service	Cupping Massage Acupuncture Chinese patent medicine	Chinese medicine science knowledge Traditional Chinese Medicine Service Area	
Professional Public Health Agency	Centers for Disease Control and Prevention Maternal and Child Health Hospital Health education institute Specialist hospital		
Geriatric care services	Geriatrics Aged care unit Hospice care bed Geriatric rehabilitation guidance Elderly mental health education		
Elderly care service	Elderly activity center Elderly lifestyle guidance Elderly diet nutrition guidance	Home care service Elderly nursing service	
Medical Expenses	No obvious price advantage Medical expense is too high Reimbursement delay for medical expense	Medical expenses are not reimbursed for default Medical expenses cannot be reimbursed	
Service problem	Service is not timely Poor service attitude Less service project		
Human Resource problem	Low technical level of medical staff Low quality of medical staff Low qualification for medical staff		
Equipment problem	Poor medical environment Incomplete medicine Unimproved medical equipment old and poor medical equipment		
Complaint and recommendation agency	Health Supervision Offices		

Main axial coding is to classify the relationship between various generics by continually comparing and analyzing the concept generics to form the main generics. By encoding the 24 generic formed in the open coding, 10 main generics are formed, as shown in "Table II".

TABLE II. GENERIC, MAIN GENERIC AND RELATIONSHIP CONNOTATION

Main Generic	Generic	Relationship Connotation
Policy system service demand	Community health service publicity Medical service system Medical service expense Financial investment of community health service	Belong to the demands of policy system related to community health service
Policy system service agency	Policy system service agency	agencies provide service for relative policies of community health service
Basic medical service demand	Basic medical service Family medical service Referral service	Basic medical service should be provided by community health service agency
Basic medical service support agency	Basic medical service support agency	Agency that assists community health service providing basic medical services to residents
Public health service demand	Health education Disease prevention and control Mental health service Health care service Rehabilitation service Family planning technical service Chinese medicine service	Public health services required by community health services
Public health service agency	Professional public health agency	Agency that assists community health service providing basic medical services to residents
Elderly medical service demand	Elderly medical service	Demands of community elderly for medical services
Elderly nursing demand	Elderly nursing service	Demands of community elderly for elderly nursing service
Complaint recommendation demand	Medical expense problem Service problem Human resource problem Equipment problem	Residents have encountered many problems in the use of community health services, and urgently need feedback.
Complaint recommendation agency	Health Supervision Offices	agency to receive the feedback of residents

Selective coding is a re-enhancement of the concept. By analyzing the system of the main generic, the "core genus" is selected to construct a new theoretical model. Through the analysis and integration of the main generic genus, this article codes the "policy system service demand" and "policy system service organization" as the core generic "policy system service"; code the "basic medical service demand" and "basic medical service support institution" as the core generic of "basic medical services"; code the "public health service demand" and "public health service agency" as the core generic of "public health service"; code the "elderly medical care service demand" and "elderly nursing service" as the core generic of "elderly service"; code the "complaint recommendation requirement" and "complaint recommendation agency" as the core generic of "complaint recommendation service", and the above five core generics together formed the whole content of community health service (see "Fig. 2").

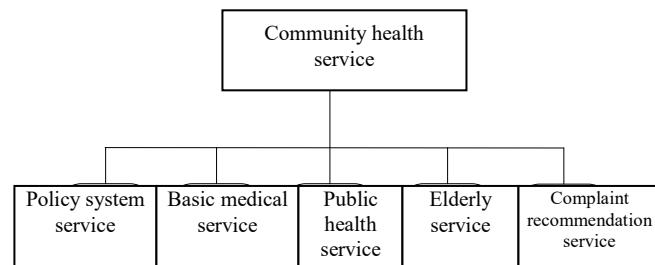


Fig. 2. Selective coding of community health services.

V. URBAN COMMUNITY HEALTH SERVICE CHAIN MODEL CONSTRUCTION

According to the theoretical model of service chain and urban community health service demand analysis, this paper constructs the urban community health service chain framework, as shown in "Fig. 3". The framework is based on government departments, health institutions and various social organizations as the objective to provide policy system services, basic medical services, public health services, services for the elderly, and complaints and suggestions services to community residents, so that to form the entire service system of the service chain.

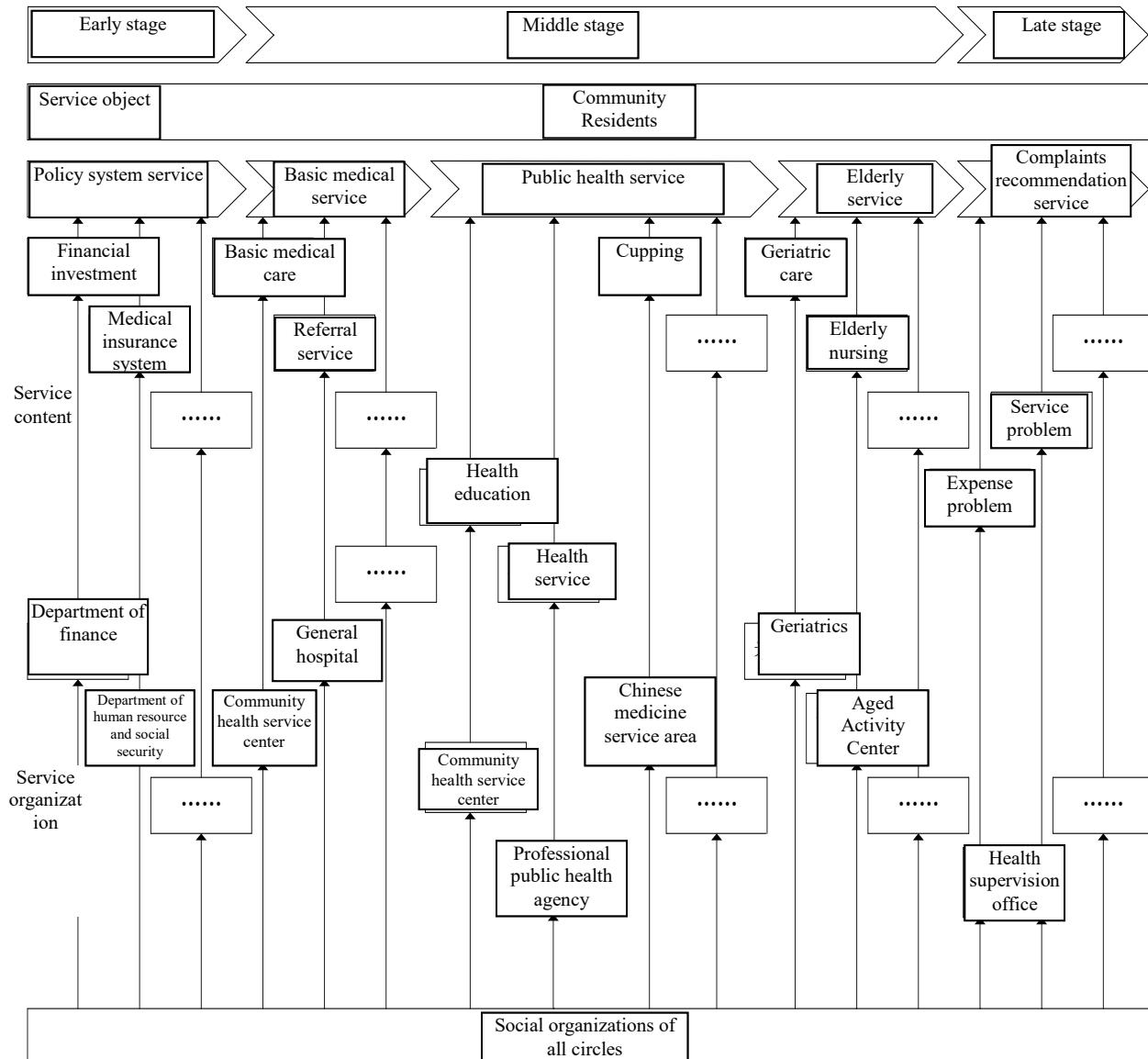


Fig. 3. Urban community health service chain model.

The various “nodes” in the framework of the urban community health service chain include:

(1) Policy system service chain “node”: government guide the policy system service for urban community health services; Department of Finance and Department of Civil Affairs provide financial input for urban community health services, such as economic compensation, special funds for medical assistance, etc.; And the Department of Human Resource and Social Security formulate and improve the medical service system, such as the medical insurance system and the family doctor system; Municipal Health and Family Planning Bureau formulate and improve the quality management system and service evaluation system for urban community health services; community neighborhood committees and community volunteer groups cooperate with

government departments to carry out publicity activities on urban community health services.

(2) Basic medical service chain “node”: Community health service center (station) provide basic medical services for community residents, such as common disease diagnosis and treatment, emergency diagnosis and treatment, etc.; general hospitals, specialist hospitals, etc. cooperate with community health service centers (station) to provide referral services for residents, etc.

(3) Public health service chain “node”: Community health service center (station) provide public health services for residents, such as health education, disease prevention and control, mental health services, health services, rehabilitation services, family planning technical services, medical services, etc.; professional public health agencies cooperate with

community health service centers (stations) to provide public health services to residents.

(4) Elderly service “node”: geriatrics, aged care unit and hospice care beds, etc., provide medical services for the elderly; other institutions such as the Aged Activity Center provide home-based care services and elderly nursing services.

(5) Complaints recommendation service chain “nodes”: Health Supervision Offices receive problems such as medical expenses and service problems encountered by residents in the process of using urban community health services.

VI. CONCLUSION

This paper only analyzes the service content and service organization of the community health service chain, but did not make further consideration on how the community health service chain plays a role in the actual operation. In the subsequent research, a certain area can be selected as the research object to improve the service chain model through exploration and research.

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