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## **Research Hotspot and Trend of Urban Community** Service Based on Citespace Visual Analysis

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ABSTRACT: As the smallest basic unit in the city, community service model has been paid more and more attention by researchers. In this paper, the literature of academic journals in the field of community service collected in China National Knowledge Network (CNKI) from 2019-2024 was searched. Through screening and eliminating duplicate and invalid literature, 871 literatures were obtained as research objects. The scientific measurement software CiteSpace 6.2.R6 was used for visual analysis, including the Line chart of the number of published literatures related to community service The scientific measurement software CiteSpace 6.2.R6 was used for visual analysis, including the Line chart of the number of published literatures related to community service model, keyword co-occurrence cluster graph, keyword frequency and intermediary centrality analysis table, keyword clustering Time Line graph and The research results show that: in the past five years, the literature research hotspot in the field of community service mainly focuses on the elderly as the main focus of the community service model. The research results show that: in the past five years, the literature research hotspot in the field of community service mainly focuses on the elderly as the main body of community service, optimize the community service framework; The focus of the research is to improve the The focus of the research is to improve the community service system, effectively combine medical care and old-age care, and emphasize public service consciousness; The research path and development direction is to build a smart community The focus of the research is to improve the community service system, effectively combine medical care and old-age care, and emphasize public service consciousness; The research path and development direction is to build a smart community platform based on Internet technology, enhance community residents' physical exercise and sense of The research path and development direction is to build a smart community platform based on Internet technology, enhance community residents' physical exercise and sense of belonging, and realize the integration of "people-technology-space-platform".

**KEYWORDS**: Intelligent community; Service mode; CiteSpace; Visual analysis

#### PREFACE

Community is the basic unit of urban governance and urban public service, an important space carrying people's vision of a better life, and an important foundation for maintaining social order and stability. China's urban community service system continues to be sound, and hotspots and trends in research on community services have received the attention of more and more scholars. By the end of 2020, the coverage rate of comprehensive service facilities in rural communities had reached 65.7%, with 4.338 million community workers nationwide, 2.776 million members of village (neighborhood) committee teams, and 1.573 million social work professionals. The country's 509,000 villagers' committees and 113,000 residents' committees have initially realized centralized information aggregation and unified management through the "Internet+community government services" and "Internet+community business services" models. In addition, according to the civil affairs statistics of the Ministry of Civil Affairs of the People's Republic of China for the second quarter of 2023, a total of 29,495 community service centers and 520,216 community service stations have been established.

Community services cover a wide range of fields such as elderly care, medical care, education, etc., and their purpose is to satisfy the basic needs of residents through the provision of high-quality and convenient services. In December 2021, the Circular of the General Office of the State Council on the Issuance of the "14th Five-Year Plan" for the Construction of Urban and Rural Community Service System proposed that community services are related to people's livelihood and linked to their hearts. In December 2021, the General Office of the State Council issued a circular on the "14th Five-Year Plan" for the construction of urban and rural community service systems, stating that community service is related to people's livelihoods and connects people's hearts, and that continuously strengthening the functions of the community to serve the people, provide convenience to the people, and provide peace to the people is an inevitable requirement to implement the idea of development centered on the people, carry out the mass line of the Party, and push forward the modernization of grass-roots governance, accessible, focusing on creating a high quality of



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life, and promoting the organic embedding of urban public service facilities in the community and the extension of public service programs to cover the community.

In this paper, 871 academic journals on community service research were searched on China Knowledge Network (CNKI) with "community service" as the search topic, and 871 academic journals on community service research were searched from SCI, Beida Core, EI, etc. from September 2019 to January 2024 using CiteSpace software. The search was conducted on 871 academic journals from "SCI", "Peking University", "EI" and other academic journals related to community service research from September 2019 to January 2024, using CiteSpace software to analyze the research focus, hotspots, and pathways of the community service field from the aspects of the number of articles, the keyword co-occurrence clustering mapping, the keyword frequency and intermediary centrality, and the keyword timeline mapping, and so on. The research focus, hotspots, paths and development directions in the field are visualized and analyzed, which is of practical significance to strengthen the construction of community service model and provide theoretical basis for the construction of community service model.

#### I. RESEARCH METHODOLOGY AND DATA SOURCES

#### **Research methodology**

In this paper, the results of the analysis of the research hotspots, focuses and trends of community services were visualized and analyzed by CiteSpace-6.2.R6 software, and presented in the form of a knowledge graph. The parameters are set as Time Span = 2019-2024, Time Slice as Years Per slice = 1, Node Types as Keyword, and Node Threshold TopN = 20, so as to derive the number of publications of community service literature, and keyword co-occurrence clustering map, Keyword frequency, Keyword TimeLine mapping, and Keyword emergence Top20 mapping was studied and analyzed.

#### **Data sources**

The research data in this paper comes from the academic journal literature in the China Knowledge Network (CNKI) database. Through advanced search, the search topic was set as "community service", and a total of 8803 academic journal articles were retrieved from the source categories of "SCI", "EI", "CSSCI", "CSCD" and "Beida Core". A total of 8803 academic journal articles with the source categories of "SCI", "EI", "CSSCI", "CSCD" and "Beida Core" were retrieved. In order to reflect the reliability and accuracy of the research data, some invalid or repetitive documents such as abstracts were manually screened and eliminated, and 871 valid documents were identified as the data samples of this research.

#### II. ANALYSIS OF THE VOLUME OF COMMUNITY SERVICE RESEARCH PUBLICATIONS

The number of literature published on community service can to a certain extent reflect the current situation and research hotspots and focuses in the field of community service research[1]. In this paper, we use the scientometric software CiteSpace-6.2.R6 to draw a line graph of the time number of literature published on community service from September 25, 2019-January 15, 2024 based on the search results of China Knowledge Network Database (CNKI). Since the number of literature starts to be counted from January in 2024, the time period 2023-2024 is indicated by dashed lines in the time number of literature published line graph, as shown in Figure 1. The number of literature publications obtained from the final screening shows that the number of publications on community service remains steady during the period 2019-2024, with an average of 154 publications per year from 2020-2022 and a high of 184 publications on community service research in 2023. In addition to this, there are already 9 papers in 2024. It can be seen that the research on the aspect of community service field has been the focus and hotspot of scholars' research.

With the rising technological and economic levels brought about by reform and opening up, accompanied by a declining fertility rate, the problem of population aging is becoming increasingly serious. In addition, at the end of 2019,the outbreak of new coronavirus pneumonia (Corona Virus Disease 2019, COVID-19), the community as the smallest infrastructure unit of the city, the detailed formulation and orderly use of community service model is imminent, how to create smart communities, smart health care has become a research hotspot for scholars. At the same time, General Secretary Xi Jinping proposed in the report of the 20th Party Congress to strengthen the construction of urban infrastructure and create livable, resilient, and smart cities, which is the concept that provides a direction for the research of community service model.

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#### III. ANALYSIS OF HOT SPOTS AND FRONTIERS OF COMMUNITY MANAGEMENT MODEL RESEARCH

#### Keyword co-occurrence cluster analysis

The keyword co-occurrence clustering map derived from the scientometric software CiteSpace clusters the closely related keywords through an algorithm, assigns a value to each keyword, and finally selects the maximum value in the same cluster to represent the class, with the help of the modularity (i.e., Q-value) and the average silhouette value (i.e., S-value) to reflect the accuracy and scientificity of the derived results, usually when Q > 0.3, it indicates its research value. Accuracy and scientificity, usually, when Q>0.3 and  $S \ge 0.5$ , it indicates that it has research value[2]. The keyword co-occurrence clustering map of community service model is obtained through the software, as shown in Fig. 2. N=230, E=396, Density=0.015, Q=0.5888, S=0.7029, and the results show that the parameter Q and S values in the keyword co-occurrence clustering map of community service model satisfy the requirements, which means that the data are of reference significance.



Fig. 2 Community service keyword co-occurrence clustering mapping

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As can be seen in Figure 2, there are seven main clusters in the keyword clustering map of community service model, which are community governance (#0), chronic disease (#1), healthcare and elderly care integration (#2), community (#3), public service (#4), influencing factors (#5), and aging (#6). This result indicates that the research focus and hotspots of community service model sound community service system, effective combination of healthcare and elderly care, and emphasis on public service awareness.

#### Keyword frequency and mediacy centrality analysis

Through the citespace software to run the analysis can know the community service model keyword frequency and mediated centrality, the results of the analysis are shown in Table 1. as can be seen in Table 1, there is a strong correlation between community, community governance, and the elderly, in which the frequency of community is 49, and the mediated centrality is 0.22; community governance is 46, and the mediated centrality is 0.18; and the elderly frequency is 41, and the mediated centrality is 0.22.

serial number	Keyword	frequency	intermediary centrality
1	communal	49	0.22
2	community governance	46	0.18
3	older people	41	0.22
4	factor	28	0.09
5	Elderly services 26		0.11
6	combine healthcare and nursing	26	0.08
7	community service	23	0.07
8	community care	16	0.03
9	Service Design 15		0.02
10	social organization	14	0.06
11	urban community	13	0.05
12	demand	12	0.04
13	public service	11	0.07
14	aging	11	0.08
15	Shanghai	11	0.05
16	intelligent community	9	0
17	volunteerism	9	0.05
18	chronic disease	8	0.03
19	family doctor	8	0
20	health management	6	0.04
21	Intelligent Retirement	6	0.01

Table 1 Distribution of keyword features

The keyword frequency and intermediary centrality can reflect that the research hotspots of the community service model mainly focus on the construction of the community service system, the combination of medical care and elderly care, and the building of smart communities. In recent years, with the launch and implementation of policies related to community services for the elderly, for example, in 2022, the State Council issued the "14th Five-Year Plan" for the

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development of the national aging cause and the pension service system, which clearly states that it will increase institutional innovation, policy supply, and financial investment, and promote the synergistic development of the aging cause and the industry, and 2023 The General Office of the Central Committee of the Communist Party of China and the General Office of the State Council emphasized in the Opinions on Promoting the Construction of the Basic Senior Care Service System that relying on and integrating the existing resources, support for senior care institutions to operate community senior care service facilities. More and more scholars are focusing more on smart senior living communities. At present, Changsha, Chengdu and Wuxi have made further breakthroughs for the combination of medical care and nursing[3].

#### Keyword Timeline mapping analysis

The keyword timeline mapping can visualize the development as well as the research focus and hotspots of the research on community service model from 2019-2024. The keyword timeline mapping of the community service model obtained by using CiteSpace-6.2.R6 software analysis, the nodes on the horizontal axis indicate the time of the first appearance, the size of the circle on the line is positively correlated with the frequency of the appearance at a certain moment, and the connecting lines indicate that there is a certain degree of correlation between the two or more[4]. Modularity Q=0.5888 (>0.3) and Weighted Mean Silhouette S=0.8717(>0.7), which meets the relevant specifications, and the obtained data have reference significance[5], as shown in Figure 3. In this paper, representative clusters #0, #2 and #3 are now selected for analysis.



Fig. 3 Community service model keyword timeline mapping

Cluster #0 Community Governance, which focuses on community organization service design and risk prevention and control governance. Ren Yuanyuan[6] and other scholars have proposed that with the continuous expansion of urban construction and intensive resource distribution, it is necessary to strengthen the community's ability to prevent and resist major public crises, so as to realize the evolutionary resilience of the community, i.e., in the face of external perturbations, the community will make use of its own learning ability and innovation ability to resolve the crisis. Sun Meng[7] proposes that community governance currently exists in the community residents do not have a strong sense of participation, community information transmission blockage, supervision and feedback system is not sound and so on, should strengthen the sense of belonging of community residents, broaden the channels of information exchange, improve the community management mechanism, so as to form a new pattern of grass-roots governance of the total construction, sharing and common governance. At the same time, Zeng Wei and[8] believe that the blockchain empowers the modernization of community governance, promotes the openness and transparency of the community governance mechanism, and realizes the "data residents".

Cluster #2 Combination of medical and nursing care, mainly focuses on the research of outbreak prevention and control service model and the reform of the supply mechanism in order to achieve the purpose of combining medical and nursing care. Since the outbreak of the new coronary pneumonia epidemic in 2019, communities around the world have been paying more and more attention to the research on the prevention and control model for emergencies. Liu Nan[9]

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and other scholars have found through investigation and research that there is a geographical development imbalance in primary healthcare organizations for home-based community healthcare integration services, and that the health insurance payment process should be improved and the supply mechanism reform should be promoted so that the satisfaction level of the elderly in the home-based community matches the quality of the home-based healthcare integration. In addition, Si Jianping[10] and others first proposed the concept of "community embedded Chinese medicine characteristics" healthcare integration, constructed a two-dimensional theoretical framework of "embedded-performance", integrated healthcare integration resource allocation, and standardized healthcare service mechanism.

Cluster #3 Communities, focuses on the intelligent and scientific construction of communities. Since 1983, the former State Sports Commission in the "on further creating a new situation in sports instructions", the first clear proposal to build China into a "world sports power", set off a sports power boom. At the same time, scholars have been aroused to conduct in-depth research on the construction of an all-round intelligent community platform based on big data, so that "intelligent technology" can be deeply penetrated into every aspect of residents' lives, including sports service centers, medical service centers, information exchange centers, etc., to realize a more efficient, more refined and more scientific intelligent community. For example, scholars such as Chajin[11] began to start from the perspective of resilience governance of smart community sports centers, and found that there is a general neglect of the resilience construction of community sports centers as the main body of the problem by means of fieldwork, and proposed that the combination of community governance and science and technology to promote the community's dynamic reconciliation capacity and grass-roots sports governance, and to strengthen the community residents' physical exercise. Meanwhile, for the issue of smart community applicability, scholars such as Fan Fengchun[12] propose four urban community smart governance driving modes from a new perspective, i.e., terminal service-driven mode, platform integration-driven mode, online collaboration-driven mode, and comprehensive application-driven mode, which provide reference directions for scholars' future research. Scholars such as Wang Jiang[13] have explored the optimization of community institutional framework from the perspective of four-dimensional embeddedness of "human-technology-space-platform".

#### Analysis of research progress and cutting-edge hotspots

The keyword emergence map obtained by citespace software contains keywords, year, strength, beginning and end[14], reflecting the attention of researchers to a certain field or aspect at a certain time, as well as the research progress and cutting-edge trends in that period. Hot Trend[15]. Using CiteSpace software to analyze the keyword emergence TOP15 map of community service model shown in Figure 4. From the keyword emergence mapping, it is easy to find that in 2019, "medical association (2.38)" and "service system (1.98)" have become the focus of scholars' research. The keywords with higher emergence intensity in 2020-2021 are "general practitioner (1.43)", "community sports (1.19)", "supply body (0.71)" and "artificial intelligence (0.71)". In the last two years, the keywords of the focus of the study changed to "rooted theory (1.47)", "home-based community (1.22)", and "pharmacy service (0.98)", "tertiary prevention (0.49)", of which "tertiary prevention" has become particularly important with the frequent emergencies in recent years, and also provides the basis for scholars' subsequent research directions.

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### Top 15 Keywords with the Strongest Citation Bursts

Keywords	Year	Strength	Begin	End	2019 - 2024
医联体	2019	2.38	2019	2020	
服务体系	2019	1.98	2019	2020	
北京	2020	1.43	2020	2021	_
全科医生	2020	1.43	2020	2021	_
社区体育	2020	1.19	2020	2021	_
供给主体	2020	0.71	2020	2021	_
人工智能	2020	0.71	2020	2021	_
社会工作	2021	1.23	2021	2022	
分级诊疗	2021	0.98	2021	2022	
人口	2021	0.49	2021	2022	
扎根理论	2022	1.47	2022	2024	
居家社区	2022	1.22	2022	2024	
药学服务	2022	0.98	2022	2024	
三级预防	2022	0.49	2022	2024	
主体	2022	0.49	2022	2024	

Fig. 4 Top15 mapping of keyword emergence in community service models

#### IV. CONCLUSION

This paper analyzes the research in the field of community service model based on Citespace software, and describes the research hotspots and research trends about community service model in recent years from a macro perspective: From the keyword co-occurrence clustering mapping, keyword frequency and mediacy centrality analysis of the community service model, it can be seen that a sound community service system, effective combination of healthcare and elderly care, and emphasis on the awareness of public service are the focus of research on the community service model, while focusing on the optimization of the community service framework with the elderly as the main body of the community service.

From the perspective of community service model keyword timeline, the research on community service model in 2019-2024 mostly focuses on the construction of smart communities, integrating Internet technology with residents' life and production, and creating a favorable environment of "human-technology-space-platform". -platform" favorable environment. At the same time, in view of the problems of community service, such as the lack of strong awareness of community residents' participation, the stagnation of community information transmission, and the inadequacy of the supervision and feedback system, more and more researchers are inclined to research on the construction of community sports service centers, the protection of residents' sports and the enhancement of the sense of identity of the residents in the community.

By analyzing the community service model keywords highlighting the TOP15 mapping macroscopically outlines the development direction of the future community service model research, that is, emphasizing the people-centeredness, strengthening the sense of belonging of the community residents, improving the medical service system for the elderly in the community, and vigorously developing the construction of the smart community based on big data.

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