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Development and Promotion of Elderly Care Information Sharing Platform Using Big Data

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Abstract: *Actively responding to the aging population has become an important issue in the development of the times. With the continuous deepening of practice, traditional elderly care service models have many drawbacks. It is necessary to rely on internet thinking and big data technology, and a new model of smart elderly care services based on communities should emerge and flourish in response to the times. This article proposes that the integration of big data and community elderly care services can achieve precise matching services, effectively integrate resources, alleviate supply shortages, and effectively supervise emerging information technologies. The ultimate goal of the development and promotion of elderly care information sharing platforms is to innovate community elderly care service models, meet the multi-level and diversified elderly care service needs of the elderly, and promote the transformation and development of China's elderly care service industry.*

Keywords: *big data, smart elderly care, sharing platform*

1. Introduction

Emerging technologies such as artificial intelligence and big data have become distinct features of the new era, and information technology is the representative of current advanced productivity. Community smart elderly care is the integration of information technology into traditional community elderly care service models, and the construction of a community elderly care service network with the participation of multiple entities through internet information platforms [1]. It is conducive to overcoming the difficulties of traditional community elderly care resource scarcity and insufficient supply, and meeting the diverse elderly care service needs of the elderly. The community smart elderly care service model can make up for the shortcomings of home based elderly care, alleviate the elderly care burden on families and society, and is a new model to address population aging.

2. Value embodiment of community smart elderly care service model based on big data

2.1 Achieving accurate service matching

Big data plays an important role in solving the challenges of traditional community elderly care service supply models. Big data has advantages in information reception, processing, and sharing. Through internet platforms, the health information of the elderly in the community is comprehensively and systematically collected, summarized, and stored on the elderly care information platform, facilitating accurate service matching by service institutions and personnel. Timely flow of online information and timely delivery of offline services, improving the accuracy of elderly care services through continuous information feedback [2]. The community elderly care service information platform can also monitor and track the health changes of the elderly in real-time, change the supply of services based on changes in demand, and promote good communication between service providers and demanders. As the elderly on the demand side, they can enjoy the most accurate services; as a service provider, it can also provide suitable services, solving the problem of information asymmetry and improving the accuracy of supply and demand matching.

2.2 Promote the integration of multiple resources

The integration of big data and community elderly care services can improve the resource integration level of traditional community elderly care services and solve the practical problem of

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insufficient supply of elderly care resources [3]. Information technology plays an integrated and optimized role, identifying overlaps and gaps in market supply information, providing timely feedback to service platforms, integrating limited elderly care resources, and providing systematic elderly care services for the elderly. Internet platforms can also achieve online education and training for community elderly care service personnel, solve the practical problem of improving their quality, and use big data to connect different service providers in the background, jointly providing services to the elderly, making services fast and effective [4]. The smart community elderly care service model provides an opportunity for social forces to participate in the development of the elderly care industry. The potential elderly care service market can increase the motivation and enthusiasm of social forces to participate, which is conducive to gathering multiple resources, attracting innovative elderly care service products from emerging industries in the internet field, allowing elderly people to enjoy more convenient services, and promoting the development of the elderly care industry.

2.3 Assist in diversified and personalized services

The integration of big data and community elderly care services has promoted the smooth flow of elderly care information channels, further modernizing and humanizing community elderly care services. The traditional community elderly care service model places more emphasis on issues such as food, drink, and daily life for the elderly, but rarely meets the diverse and personalized elderly care needs of the elderly. The smart community elderly care service model leverages the unique advantage of convenient information communication in big data to expand the scope of community elderly care services. For some elderly individuals with poor health conditions, they can make appointments on internet platforms and enjoy home care and medical services; intelligent travel can be achieved through technological products; Health management can be achieved through data monitoring. In addition, the big data platform integrates diverse information of the elderly in the community [5]. Smart communities can also provide services based on the spiritual needs of the elderly, encourage them to participate in the smart cultural life of the elderly in the community, and thus achieve personalized elderly care.

2.4 Promote real-time and effective supervision

The distinct advantage of big data platforms is to make each service link more open and transparent, which is conducive to real-time supervision. The intelligent elderly care information is transferred online and offline, and the supervision of services is also carried out in collaboration online and offline. As a service institution and staff of the supplier, their relevant information is publicly available on the service platform, and elderly people and their families can check the status of service personnel at any time; As community elderly people on the demand side, after receiving services, they can make service evaluations and feedback on the platform; As the service quality supervisor of the supervisory party, you can see the information of both parties on the smart community elderly care service platform. Through online communication and regular visits, you can timely understand the service situation and achieve service quality control. This form helps to play a supervisory role, constrain the behavior of service providers, and promote the improvement and improvement of service quality.

3. Development of a big data-based elderly care information sharing platform

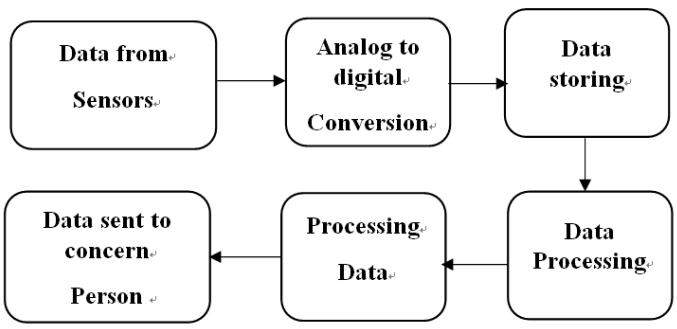

Figure 1: Architecture of elderly care information sharing platform

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The smart community elderly care service platform relies on big data construction to effectively integrate social resources and provide various elderly care services that meet the actual needs of the elderly in the community. The operation of the platform requires both online information management and offline physical services. The evaluation and feedback of community elderly care services are then transmitted to the service platform, and each link is closely linked to form an effective connection between online and offline community elderly care services. As is shown in Figure 1.

3.1 Online information management

Firstly, collect basic information on the demand and supply sides. The collection of information is the fundamental link in building a community smart elderly care service model, which is related to whether precise elderly care services can be provided. On the one hand, information collection for the elderly in the community can be achieved by installing intelligent monitoring systems, such as wearable devices and locators suitable for the elderly. Community staff can also be arranged to visit and collect information on the elderly's service needs, physical condition, personal happiness, etc. Finally, information pages for each elderly person can be established and uploaded to the community intelligent elderly care service management platform; On the other hand, as the main providers of community smart elderly care services, governments, enterprises, social organizations, etc. can use big data technology to understand the current situation of elderly care service supply in various regions, and convey supply service information to the community smart elderly care platform based on actual situations. Effective information exchange and sharing among regions can also be achieved through platforms to avoid the occurrence of duplicate supply.

Secondly, basic information between the supply and demand sides needs to be exchanged. After summarizing and analyzing the basic information of the demand side and the supply side, it is transmitted to the community elderly care service platform [6]. After matching the supply and demand information, the platform arranges tasks for the supply side, and the government, enterprises, social organizations, volunteers, and other supply sides immediately provide corresponding elderly care services.

Finally, transmitting the real-time demand information of the elderly generated during the service process and the evaluation feedback of the elderly after the service is completed to the online information management platform can play a supervisory role to a certain extent. The operation of the platform and the provision of services by service personnel require regular supervision. Elderly people can express their satisfaction with their service experience and also propose improvement suggestions, which is conducive to ensuring the quality of elderly care services.

3.2 Offline comprehensive services

In addition to online information management, the community smart elderly care service model is more important in providing offline physical services. What the elderly need more is tangible offline services. The types of services analyzed and calculated through big data should be transformed into specific service items to ensure the satisfaction of various needs of the elderly, such as home care, daily meal delivery, health management, bath assistance, intelligent travel, safety protection, and other comprehensive services. The application of offline physical services also requires improved infrastructure, including places where elderly people need to enjoy services such as life care centers, medical and health stations, rescue institutions, cultural and entertainment centers, as well as smart elderly care electronic devices such as locators, infrared sensors, and wearable devices suitable for the elderly. Supply entities use these infrastructure to deliver elderly care services to the community elderly.

4. Promotion methods of elderly care information sharing platform under big data

4.1 Increase capital investment and strengthen technical support

The smart elderly care industry in China started relatively late, and there are shortcomings in the construction of technology platforms and intelligent hardware development. The limitations of technological level have led to the current imperfect construction of community smart elderly care. Building a community elderly care service platform that integrates online and offline with information technology requires sufficient technology to establish a unified elderly care service database and

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regulatory platform. The research and development of technology not only requires R&D talents, but also R&D funds [7]. Therefore, the government should increase funding investment, support the research and development of intelligent elderly care facilities, and invest in people, finance, and materials from multiple aspects. However, government funds are also limited, and currently relying solely on government investment is not enough. We can refer to the experience of developed countries and introduce market mechanisms to attract enterprises to participate in investment in smart elderly care construction. Through market competition, we can encourage internet enterprises to actively develop and produce smart elderly care service products, enrich the smart elderly care construction fund account, and improve the quality of smart elderly care services.

4.2 Adhere to demand orientation and assist in precise services

The essence of smart community elderly care is service, and people-oriented is the biggest characteristic of elderly care services. To break through the traditional supply orientation limitations, starting from the needs of the elderly, considering issues from the perspective of the elderly, and objectively and accurately collecting data. On the one hand, it is necessary to prevent the phenomenon of "smart not caring for the elderly, not smart". The construction of smart social elderly care services cannot prioritize online or offline, and the elderly need more tangible offline services. Based on the needs of elderly people in special difficulties, elderly care service projects can be selected, and a database of elderly care services covering the elderly, elderly care institutions, elderly care facilities, etc., with up and down linkage and unobstructed information can be built; On the other hand, the needs of the elderly are diverse. We need to further expand the field of community smart elderly care services, innovate service types, and use information technology to organize community elderly care activities in different forms and contents to meet the spiritual needs of the elderly.

4.3 Increase publicity efforts to eliminate digital barriers

Due to various factors such as age, living conditions, and cultural level, the acceptance of intelligent elderly care services by elderly people varies. To eliminate digital barriers for the elderly, it is not only necessary to build a smart community elderly care service platform, but also to integrate smart services into the actual lives of the elderly. Firstly, it is necessary to increase the promotion of smart elderly care for the elderly and increase the attractiveness of smart devices to the elderly, especially the younger ones. Integrating intelligent training into community services, utilizing community elderly institutions to provide training and guidance for the elderly, and helping them become familiar with the use of smart platforms. Secondly, to enhance public awareness and trust in community smart elderly care, it is possible to increase the promotion of smart elderly care on community or internet platforms, so that elderly people have more opportunities to understand the various advantages of community smart elderly care. Finally, for elderly people with low acceptance of intelligence, such as the elderly living alone and the elderly, community smart elderly care service institutions must regularly guide the elderly to operate, in order to increase their recognition and interest in smart elderly care services.

4.4 Mobilizing social forces and strengthening service teams

The lack of human resources in community elderly care services makes it difficult for practitioners to meet their professional standards, and elderly care service practitioners are important human resources for smart community elderly care [8]. On the one hand, the government should expand the professional team of elderly service personnel, rely on various universities, colleges, professional training institutions, etc., strengthen the professional skills and quality training of community service and nursing personnel, increase the allocation of professional social workers, attach importance to personnel induction training and daily learning, and improve the service level of practitioners; On the other hand, the government should strengthen the social team of elderly care services and mobilize social forces to participate in the construction of smart communities. We can guide enterprises, social organizations, and others to actively participate in building a smart community elderly care service platform, introduce a competitive mechanism, and promote innovative ideas for improving the quality of community elderly care services through social forces; Reasonable and effective incentive measures can also be adopted to encourage more volunteers with professional knowledge and skills to join the community smart elderly care service team, improving the comprehensive service ability and quality of the volunteer team.

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4.5 Improve policies and regulations, strengthen macro guidance

The construction of smart community elderly care requires a unified system standard, and the development of the smart elderly care industry requires the formulation of quality standards, market access rules, and other regulations to promote the standardized development of smart elderly care services. Firstly, strengthen top-level design, promote collaboration between regions and government departments, clarify the specific responsibilities of functional departments, and strengthen organizational leadership. Secondly, improve supporting policies and regulations, and play a leading role in policies. We can further improve relevant policies and regulations based on the problems in the pilot areas, and scientifically formulate specific guidelines and promotional measures in combination with the actual situation. The formulation of policies and regulations should be well aligned with the practical needs of the elderly, and comprehensive considerations should be taken from designing plans, specific plans, to subsequent preferential measures. Finally, improve the supervision and assessment mechanism, establish a unified and easy to operate regulatory system, scientifically design a performance evaluation system, cultivate professional regulatory talents, and improve the level of government specialized supervision. The government should regulate the products and services of enterprises, implement daily periodic inspections, and promote social organizations as third-party supervisors to objectively and fairly supervise and evaluate community elderly care services, ensuring that elderly people enjoy higher quality elderly care services.

5. Conclusion

The elderly care industry in China has faced enormous challenges due to the intensification of population aging, and optimizing the elderly care service system is an objective need to address the situation of population aging. In the era of big data, the internet, as an emerging technology, has been widely integrated and applied in multiple industry fields. The new technologies and new thinking in the Internet era are exactly what China's elderly care service industry needs for transformation and development. Therefore, the government, market, and society need to rely more on Internet platforms to innovate community elderly care services to meet the multi-level and diversified elderly care service needs of the elderly. Only in this way can China's elderly care services flourish in the wave of the internet.

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