

Research on the Optimization of China's Elderly Care Service System from the Perspective of Intelligent Elderly Care

Zhao Yaheng

Zhongshan Vocational College, Nanjing, Jiangsu, China

Keywords: intelligent elderly care, elderly care service system, optimization strategy

Abstract: Intelligent elderly care has innovative model significance in value concept, technology application and everyone interaction, which can be regarded as a new concept energy, technology energy and wisdom energy. As a necessary condition and element for the upgrading of elderly care service mode and even the optimization of the system, intelligent elderly care responds to population aging with the help of information-based. Therefore, based on a brief description of the current development status of China's intelligent elderly care service system, this paper studies the problems existing in the development of intelligent elderly care service system, and puts forward targeted optimization strategies in order to promote the rapid and healthy development of China's intelligent elderly care service system.

1. Introduction

In recent years, China's elderly population has increased rapidly. The concerned seventh national census shows that China's population aged 60 and over exceeds 260 million, accounting for 18.70% of the total population (see Table 1). The aging population has stimulated the rapid development of the pension market. By 2021, the pension industry market has increased from 6.0 trillion yuan in 2019 to 7.7 trillion yuan. With the development of science and technology, the wisdom of cities, the rise of apps for the elderly and the application of intelligent tools, the smart elderly care scheme derived from the "Internet +" era has also become an effective means to solve the care difficulties of the elderly. The action plan for the development of smart, healthy and elderly care industry (2017-2021), jointly issued by the Ministry of industry and information technology, the Ministry of civil affairs and the health and Family Planning Commission, clearly proposes to raise smart elderly care to the national strategic level.

Table 1 Age composition of the national population in the seventh census.

Age	Population(person)	Proportion(%)
Total	1411778724	100.00
0-14	253383938	17.95
15-59	894376020	63.35
≥60	264018766	18.70
≥65	190635280	13.50

Intelligent elderly care refers to the use of information technology, Internet technology and Internet of things technology to implant electronic chip devices in elderly care equipment for big data analysis, so as to provide diversified, fast, efficient and low-cost elderly care services to the elderly in homes, communities and institutions. Through the development in recent years, generally speaking, the standardization of intelligent elderly care in China is in the embryonic stage, and there is no national intelligent elderly care service standard system and relevant national and industrial standards. Because intelligent elderly care is a systematic project, which needs to connect public elderly care resources such as medical care, housekeeping and catering, and jointly build an interactive platform for elderly care services, there are still some problems in the development process.

2. Main Problems in the Development of Intelligent Elderly Care Service System

2.1. Difficult to Assess the Needs of Elderly Care Services

Firstly, the content of elderly care service evaluation is not comprehensive. In 2013, the Ministry of Civil Affairs issued *The Norms of the Ability Assessment of the Elderly*, which comprehensively assessed the elderly from their daily activity ability, mental state, perception and communication, social participation and so on. However, the family situation, illness, growth experience, interests, emotional characteristics, economic income and living style of the elderly are not included in the evaluation scope in this norms. In fact, these factors often affect the elderly's choice of elderly care services.

Secondly, the evaluation method of elderly care services is not accurate. Manual evaluation is slow and inefficient. With the growth of age, the vision, language and "hands-on" ability of the older generation are declining. There are communication difficulties in the evaluation process, which is prone to deviation. All these put forward higher requirements for the qualifications and evaluation tools of appraisers. Non professional appraisers can not comprehensively and accurately collect the data of the elderly, and even produce deviations and errors.

2.2. Mismatch between Supply and Demand of Elderly Care Services

The development and application of modern information technology intelligent equipment are not mature. On the one hand, it is difficult to comprehensively collect the data of the elderly. Taking the intelligent terminal device with mobile health function as an example, the function is single, and the category and flow of collecting the data of the elderly are insufficient. On the other hand, the intelligent device server can not realize the effective analysis of data information temporarily, and can not accurately reflect the physical condition of the elderly and make preliminary judgment. According to the survey, the elderly's demand for spiritual life is second only to life needs. However, most home-based elderly care services only provide domestic services, meals and other life services.

2.3. The Elderly-care Policy Lacks Top-level Design and the Integration of Industrial Chain is Difficult

As the development of intelligent elderly care services in all regions is in the exploratory stage, there are problems such as lack of top-level design, insufficient overall planning and lack of medium and long-term planning. The existence of these problems makes the development of elderly care services either lack of supporting facilities, different construction acceptance standards, or uneven service quality, which seriously restricts the market expansion of elderly care services enterprises and slows down the pace of technical cooperation with other departments. It was reported that an enterprise invested nearly ten million yuan to transform the medical information system used by a hospital. However, due to the non docking of standards, the system can not be effectively applied between different projects, resulting in a huge waste of human, material and financial resources.

2.4. Insufficient Capital Investment in Elderly Care Industry

The elderly care industry is a long-term investment with long cycle and low rate of return. At present, there is a lack of appropriate social capital entry and exit mechanism, which is difficult to ensure the safety of capital. Taking Shanghai as an example, although the elderly care service industry in Shanghai has developed rapidly, less than 1/3 of the institutions that can make profits, especially the community elderly care service is still in the stage of investment and market cultivation. Even with some government operating subsidies, most enterprises are still in the stage of making ends meet.

3. Optimization Strategy of China's Elderly Care Service System from the Perspective of Intelligent Elderly Care

3.1. Establishing and Improving the Evaluation Standards as soon as Possible and Using Information-based Means to Evaluate the Elderly

First of all, the elderly care service evaluation system should consider the simplicity, feasibility, representative and comprehensiveness in the setting of indicators, which is not limited to the content of the ability evaluation of the elderly, but also pay equal attention to the evaluation of the economic status of the elderly's family, psychological state and psychological needs, and the needs evaluation of elderly care services. Secondly, governments at all levels should cultivate and establish a number of fair and professional elderly care service evaluation institutions and talent teams as soon as possible. Cities, counties and districts should establish third-party elderly care service evaluation institutions. The evaluators need to undergo unified and strict professional training and have basic knowledge of medicine, social work, psychology, law and social security. Finally, the government should reasonably use information-based means to evaluate the elderly, strengthen the construction of information system, and establish an open and transparent elderly care service evaluation database jointly built and shared by the three levels of urban streets. The summary and analysis function is set in the database to automatically generate the evaluation conclusion, realize online approval and improve work efficiency.

3.2. Finely Identifying the Needs of Elderly Care Services and Providing Matching Elderly Care Service Items

As a big data with holistic information thinking, we can adopt a variety of scientific and appropriate ways and means on the basis of its technology to improve the relevant contents of the big data intelligent elderly care service system and refine the service information. For example, when building the service system, we can also build the elderly information files and medical record files, and integrate and process the existing data information in the elderly care institutions. Use information technology, cloud storage and other technologies to store the data information after analysis and processing, and present the information with the help of multimedia technology. In big data technology, there is also an information processing method, namely multi-dimensional clustering method. Its working principle is to summarize the information about intelligent elderly care services and relevant policy information in the industry market. Therefore, in the smart elderly care service, we can use big data technology to integrate data information, and build a scientific transmission channel for the information exchange between the two sides, so as to accelerate the matching efficiency of information resources. At the same time, it can also enable elderly care institutions to accurately recognize the real needs of the elderly for services, and on this basis, build a smart elderly care service system with big data as the background and improve the utilization rate of the service system.

3.3. Strengthening Top-level Design and Promoting the Integration of Information and Industrial chain

When building the big data intelligent elderly care service system, relevant staff should clarify the importance of service system design and improvement, and take into account the five industries of clothing, food, housing, transportation and medicine in the elderly care industry chain in the top-level design, so as to form the final industry category. When building the service system, the staff can take the classified industries as the basis of the system construction, and clarify the core products under its five industries and their corresponding pension service modes. In order to improve the effectiveness, practicability and scientific of the construction of big data smart elderly care services, information technology can be applied in the construction process, and the utilization rate of elderly care resources can be indirectly improved, so as to expand the overall scope of the elderly care industry market.

3.4. Strengthening Policy Guidance and Economic Support

Firstly, the government should formulate intelligent elderly care policies. The policy can provide guarantee for the construction of the elderly care service system, improve the Living welfare of the elderly, promote the demand for intelligent elderly care services, make the industry market pay more attention to the cultivation of the elderly care industry and stimulate the effective demand of the elderly user group. When guiding service resources, we should try our best to promote their integration in the direction of elderly care services, and then create a family and community-oriented intelligent elderly care service organization that can provide professional elderly care services. At the same time, the policy can also connect the service needs of the elderly and the law of population change, so as to make the policy system more rational and promote more intelligent services under the background of big data.

Secondly, the government should constantly sum up the experience in the process of policy pilot, and reasonably apply the valuable experience to the intelligent elderly care service industry, so as to comply with the development direction of the industry in the market and adapt to the development process. When supporting this industry, the government should not only focus on the beginning of the construction of intelligent elderly care services, but also have an insight into the whole process of elderly care services, and provide policy and economic support for its full cycle development. When constructing policies, we should not only focus on the support of infrastructure and service subsidies, but also implement and implement relevant policies in time. For example, when promoting the big data smart elderly care service industry, it is necessary to formulate unified service specifications and standards first, so as to help make the industrial process more standard and the business model more mature. At the same time, it is also necessary to introduce the policy into the family, so as to promote the improvement of the awareness of intelligent elderly care with the elderly as the main body. During this period, government purchase and free experience can be used to promote the elderly to try innovative smart elderly care products subjectively, and understand the real needs of the elderly in the process of use, so as to pry the industry market and promote the healthy and stable development of big data smart elderly care service industry.

4. Conclusion

The development and construction of China's elderly care service system from the perspective of intelligent elderly care will help relevant departments reduce the pressure on the supply of elderly care services and provide high-quality services for the elderly, but there are still many problems in the development process. In the future development, the government should speed up the establishment of evaluation standards, improve service quality, strengthen top-level design, strengthen policy guidance and economic support, so as to ensure the efficiency of the development of intelligent elderly care service system and better meet the service needs of the elderly.

References

- [1] Mingxiao Wang. Research into Intelligent Elderly Care in China in the Context of the Internet[J]. *Academic Journal of Humanities & Social Sciences*,2021,4.0(8.0).
- [2] Tang Ming,Zhang Zhijian. Investigation and analysis of community home intelligent elderly care under the background of population aging[J]. *The Frontiers of Society, Science and Technology*, 2021, 3.0(5.0).
- [3] Liu Yaguang, Xi Guiqing, Yang Haijian, Zhu Jiabin, Guo Peng ,Liu Ting. Research and Design of the Intelligent System of Care for the Elderly Based on the Internet of Things[J]. *Review of Computer Engineering Studies*,2016,3(3).