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# Analysis of the Current Situation and Countermeasures of Standardization in Smart Elderly Care

Jin Zhang

China Jiliang University, College of Humanities and Foreign Languages, Hangzhou, Zhejiang, 310018

ABSTRACT
With the increasing trend of population aging, smart elderly care, as a new type of elderly care model, is receiving more and more attention. Standardization construction will provide a guiding mark and support for the field of smart elderly care, thereby promoting the healthy and orderly development of the elderly care industry. This paper aims to sort out the development status of smart elderly care standardization, including the formulation and release of relevant national standards, industry standards, local standards, and group standards, and compare and analyze the differences between domestic and international standards. It further analyzes the existing problems in the standardization work of smart elderly care, in order to propose opinions and suggestions for the development of standardization work in the smart elderly care industry.

KEYWORDS
Standardizationz; Smart Elderly Care; Development Status

As the trend of population aging intensifies, the service needs of the elderly are increasing, and solving the elderly care problem is urgent. With the rapid development of information technology and the in-depth application of "Internet + ", smart elderly care has emerged as a major breakthrough in solving the elderly care problem. Smart elderly care refers to the use of information technology means to deeply integrate elderly care services with the Internet, providing the elderly with more convenient, efficient, safe, diverse, and intelligent elderly care services, thereby effectively compensating for the shortcomings and problems of traditional elderly care. As a result, the field of smart elderly care has ushered in great development opportunities. The healthy development of the smart elderly care industry is inseparable from the support of standardization.

At present, the standardization construction in the field of smart elderly care is still in the exploratory stage, with problems such as the lack of unified service standards, weak standard foundation, non-matching related standards, and difficulties in implementation. Therefore, this paper will conduct in-depth research on the development status of smart elderly care standardization, identify problems, and focus on standards as the core, exploring the establishment of a scientific, standardized, and high-quality smart elderly care standard system, thereby promoting the long-term development of the smart elderly care industry.

## 1 Development Status of Smart Elderly Care Standardization

### 1.1 Policy Framework and Standard Formulation

Standards are an important technical support and powerful means for economic and social

development. Using standards to regulate the development of smart elderly care services to promote the healthy, orderly, and long-term development of the smart elderly care industry has become a consensus. The Party Central Committee and the State Council have attached great importance to standardization work and have promulgated a series of policies and regulations, clearly proposing the establishment of a smart health elderly care standardization system. The promulgation of these laws and regulations provides a policy framework and guidance for the standardization of smart elderly care. Under the guidance of the major policy framework, local governments have formulated a series of standards related to smart elderly care. These standards cover all aspects of smart elderly care services, including service content, service quality, service process, and service facilities, providing a basis for the standardization and standardization of smart elderly care services.

### 1.1.1 National Standards

In China, the Standardization Administration of China has issued several national standards related to smart elderly care, covering the construction of smart elderly care systems, data security, service evaluation, and other aspects. For example, the "General Requirements for Smart Home Elderly Care Systems" (GB/T 37529-2019) clarifies the basic structure and technical requirements of smart elderly care systems; the "Basic Norms for the Construction of Elderly Care Informationization" (GB/T 36762-2018) stipulates the basic principles, content, and requirements for the construction of elderly care informationization.

### 1.1.2 Industry Standards

Industry associations are also actively promoting the standardization of smart elderly care, issuing a series of industry standards to guide specific areas of practice. For example, the China Aging Industry Association has issued the "Technical Specifications for the Information Exchange Platform of Elderly Care Services," aiming to promote the efficient sharing and exchange of information between elderly care service institutions. The Ministry of Industry and Information Technology of the People's Republic of China has issued two industry standards for smart elderly care, SJ/T 11783-2021 "Reference Model for Smart Health Elderly Care Service Platforms," which stipulates the system architecture and data transmission of smart health elderly care service platforms, guiding the standardization and standardization development of smart health elderly care service platforms.

### 1.1.3 Local Standards

Local governments have formulated local standards with regional characteristics for smart elderly care according to local actual conditions. For example, the Beijing Municipal Government has issued the "Construction Standards for Home-based Elderly Care Service Information Platforms," which proposes detailed requirements for the construction of home-based elderly care service information platforms, promoting the standardized development of local smart elderly care services.

### 1.1.4 Group Standards

Many enterprises, research institutions, and social organizations actively participate in the formulation of group standards, focusing on specific technical or service areas of smart elderly care. These standards are often more flexible and can quickly respond to market and technological changes, such as the "Application Guidelines for Smart Wearable Devices in Elderly Health

Management," providing technical guidance for smart health elderly care products.

#### 1.1.5 International Standard Comparison

Internationally, organizations such as ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission) have also issued international standards related to smart elderly care, such as the ISO/IEC 27001 Information Security Management System Standard, which is not directly aimed at smart elderly care but has significant guidance for ensuring the information security of smart elderly care systems. Compared with other countries, China's standard system in the field of smart elderly care has taken shape, but there is still room for improvement in terms of participation in international standards and the internationalization of standards.

### 1.2 Standardization Pilot Work Steadily Promoted

In January 2015, the China National Committee on Aging, the China Standardization Research Institute, and the Hangzhou Hua Ling Group jointly issued the "Technical Guidelines for the Intelligent Elderly Care Experimental Base Intelligent System" (hereinafter referred to as the "Technical Guidelines"), which, together with the "Basic Requirements for the Planning and Construction of the National Intelligent Elderly Care Experimental Base," form a series of standards for China's intelligent elderly care experimental bases. The release of this series of standards has made clear regulations for the systems of intelligent elderly care experimental bases, further clarifying the direction for the development of pilot standardized work.

## 2 Problems Existing in Smart Elderly Care Standardization

### 2.1 The Systematic Standard System Has Not Yet Been Fully Established

The standard system is an important cornerstone for the development of standardization work. Since China's standardization work in the field of smart elderly care is still in an active exploration stage, most of the policy documents issued are guiding and constructive opinions, lacking a systematic and complete combing. Therefore, a unified and coordinated scientific standard system for smart elderly care services has not yet been constructed at the national level.

### 2.2 Partial Absence of Standards and Unreasonable Structure

The partial absence of standards will limit the future development of the smart elderly care industry, causing it to lose its due protection. Looking at the fields involved in the current standards, the industry standards issued are more focused on the construction of smart health elderly care platforms and the classification of elderly care products. The corresponding group standards and local standards are mostly guidelines and overall requirements. The formulation of standards tends to be more hardware-oriented, but there are almost no standards for service quality in smart elderly care, focusing only on hardware and lacking software standards. This leads to an unscientific and reasonable structure of standards, and the fields covered by standards are not balanced. In addition, the quality of some standards needs to be improved. In particular, local standards lack operational indicators when formulated, and there is a phenomenon of theory and practice being divorced, resulting in some standards lacking operability and being unable to adapt to the rapidly developing technical environment and market demands. At the same time, the applicability is not strong and cannot further meet the development needs of the smart elderly care field.

### 2.3 The Actual Application of Standards Is Not Deep Enough

The phenomenon of standards being formulated and implemented separately is common. Some localities only pay attention to standardization work at the level of completing work tasks or performance assessments, and their understanding of the essence of standardization work is not in place, leading to the formulated standards not being applied and effectively implemented. As a result, standards often become "castles in the air," with insufficient execution, and the final application results are often unsatisfactory.

## 3 Suggestions and Countermeasures

### 3.1 Establish and Improve the Standard System

The smart elderly care standard system is a complex organic whole. It is necessary to continuously optimize the framework of the smart elderly care standard system to ensure coverage of the entire chain and multiple dimensions of smart elderly care, including technology, services, management, and security, forming a hierarchical and reasonable standard system. Specifically, the top-level design of smart elderly care standardization should focus on the actual elderly care services, closely follow the characteristics of "intelligence," and further form a service standard system that includes national standards, industry standards, local standards, group standards, and internal enterprise standards, covering both hardware facilities and software at all levels. It should meet daily elderly care needs and facilitate standardized management, providing a clear decision reference for the development of national smart elderly care standardization work.

### 3.2 Strengthen the Development of Standards

It is necessary to establish an effective standard implementation mechanism. On the one hand, to address the current unbalanced structure of standards, it is necessary to accelerate the development of urgently needed service standards and management specifications to optimize the distribution structure of standards and enhance the effectiveness of standard implementation. On the other hand, it is necessary to develop high-quality standards. The development of standards should be based on and premised on the actual development of the industry. We should conduct in-depth investigations and research to fully understand the current status of smart elderly care development and improve the operability and applicability of standards based on this, achieving both quantity and quality. At the same time, encourage enterprises and research institutions to carry out smart elderly care technology innovation, and establish a rapid response mechanism to transform technological innovation results into standards in a timely manner, promoting the deep integration of technological innovation and standardization work.

### 3.3 Improve the Level of International Standards

Actively participate in the formulation and revision of international standards, strengthen cooperation and exchange with international standardization organizations, promote the connection and mutual recognition of China's smart elderly care standards with international standards, and enhance China's voice in the field of international smart elderly care standardization.

### 3.4 Strengthen the Propagation and Implementation Supervision of Standards

Due to the diversification of participants in the smart elderly care industry, it is necessary to

strengthen the propaganda of standardization knowledge. Standardization knowledge can be popularized through various means such as WeChat, Weibo, Douyin, and lectures, thereby enhancing the standardization awareness of each participant and improving their ability to use standards. At the same time, it is necessary to establish a complete evaluation and feedback mechanism. During the implementation of standards, it is necessary to further strengthen quality assessment and supervision and inspection, and focus on user participation and feedback, pay attention to the actual needs and usage experience of the elderly, establish a user feedback mechanism, and involve the elderly and their families in the formulation and improvement of standards to ensure the practicality and humanization of standards.

## 4 Conclusion

Standardization of smart elderly care is a key path to achieving high-quality development of elderly care services. By continuously improving the standard system, strengthening the development of standards, enhancing the level of international standardization, and strengthening the propaganda and implementation supervision of standards, the standardization process of the smart elderly care industry can be effectively promoted, creating a safer, more convenient, and more comfortable living environment for the elderly and helping to build the social elderly care service system. In the future, the work of smart elderly care standardization still needs continuous exploration and innovation to adapt to the diversified needs of an aging society.

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