

Analysis of Community Public Service Models and Optimization Pathways in an Aging Society

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Abstract. As the global aging process accelerates, community services—a vital component of public welfare—serve as a key platform for demonstrating societal care and support for the elderly. However, issues such as mismatched supply and demand, insufficient service precision, and inefficient multi-stakeholder coordination have become increasingly prominent, forming critical bottlenecks that constrain the effectiveness of aging governance. This paper presents core findings from 10 relevant studies, systematically analyzing the challenges facing community public services in an aging society: First, significant regional imbalances exist in basic services. Second, despite multi-faceted interventions, collaborative mechanisms are lacking. Third, while demand exhibits “complex” characteristics, supply remains focused on basic material security. Based on practical observations, the paper proposes optimization pathways: First, adopting a combined quantitative and qualitative analytical approach. Second, mobilizing various social organizations to balance supply and demand. Third, establishing one-stop service platforms. This research aims to provide insights for enhancing the precision and sustainability of community public services, thereby supporting efforts to address the social governance challenges posed by an aging society.

Keywords: Aging society, community public services, multi-stakeholder collaboration, one-stop service platform, regional imbalances.

1. Introduction

Global aging has emerged as one of the most significant socio-demographic shifts of the 21st century, posing a formidable challenge to the adaptability and sustainability of public service systems. Within the international community, Japan stands as a representative of a “super-aged society,” with its population aged 65 and above reaching 28.6% in 2022. The public pension system faces intensifying pressures, compounded by insufficient public awareness of elderly care services, which continues to constrain their effective utilization [1]. Data from Spain's Castile and León region between 2007 and 2021 reveal that despite ongoing expansion of residential care beds and day-care center resources provided by public institutions and private non-profit organizations, regional disparities remain severe. Provinces like Valladolid offer over three times the service density of poorer regions such as Soria, while rural areas receive less than 60% of the coverage available in urban centers, highlighting significant resource allocation imbalances [2]. China also faces severe aging challenges, with those aged 60 and above exceeding 15% of the population. The number of elderly with disabilities or partial disabilities has reached 37.5 million, and 81.54% of the elderly are widowed. Community services are increasingly vital for ensuring the livelihood and emotional support of the elderly [3, 4].

However, current public service models struggle to meet the “complex” demands of an aging society: Elderly needs extend beyond basic necessities like food and shelter, shifting from “survival-oriented” to multidimensional “physical-psychological-social” dimensions. Rural seniors urgently require home-based medical care, while urban seniors crave psychological support and cultural engagement [5]. Yet, service providers still prioritize “basic safeguards” like meal assistance and fundamental care.

Furthermore, dual barriers exist between data and its application: despite rapid technological advancement, only 30% of China's elderly population proficiently uses electronic devices. Smart elderly care service systems often feature overly complex interfaces unsuitable for seniors, leading to near-universal disuse. Simultaneously, data systems operated by governments, enterprises, and social

organizations remain severely fragmented—social security data, corporate health monitoring data, and social organization needs assessment data cannot be shared, creating “information silos” [6]. Global aging governance has yet to establish a mature framework, and optimizing community public service models requires ongoing exploration and discovery.

Community public services for the elderly serve as the core foundation for safeguarding basic survival and maintaining dignity in life. Ensuring the fundamental survival rights of the elderly and alleviating family caregiving burdens constitute the “safety net” of community public services. These services directly fill the void left by the weakening of traditional family-based eldercare, becoming a crucial pillar for protecting the basic survival rights of the elderly. From a demand-response perspective, for China's 37.5 million elderly with disabilities or partial disabilities, community-provided basic services—such as day care, meal assistance, cleaning support, and home nursing—effectively address the challenges of “difficulties in eating and care.” Regarding family burden reduction, community “short-term respite care” services (e.g., temporary care offered by 13 elderly care institutions in Yinchuan) can assume caregiving responsibilities when children are away on business trips or lack caregivers, thereby alleviating family pressures.

This paper employs literature review and data analysis methods, integrating theory with practice to further reflect the current aging landscape. It aims to address challenges such as supply-demand mismatches, inadequate technology adaptation, and inefficient coordination, providing theoretical insights to enhance the precision and sustainability of community public services.

2. Analysis of the Current Status and Issues in Community Public Services for an Aging Society

Since 2022, China has been experiencing negative population growth alongside a rapid increase in its elderly population. Projections indicate that over the next decade, China's population aged 60 and above will see an annual net increase exceeding 10 million people [5]. This phenomenon is not confined to China; the term “super-aged society” is equally familiar in Japan. In 2022, individuals aged 65 and older constituted 28.6% of Japan's total population. Concurrently, due to a fertility rate persistently below replacement level, Japan's population has been declining since 2011 [1]. Accordingly, while confronting such severe demographic challenges, the urgent need arises to implement appropriate community-based public services tailored for the elderly. Community services bridge families and professional institutions, with their effectiveness in addressing aging measured by supply capacity, service models, and adaptability. While analyzing the current state, challenges facing community public services for the elderly will emerge during this process. These issues plague contemporary community services for the elderly, making their analysis equally essential.

2.1. Basic Service Accessibility: Significant Regional Disparities Persist within an Expanding Coverage Area

The coverage rate of basic services (such as meals, care, and physical examinations) provided by communities has increased, but significant disparities exist across regions. In China, the core model for basic services is community-based home care for the elderly. This model has gradually expanded to cover communities in various cities, exemplified by the development of “15-minute elderly care service zones” and the routine integration of resources in some areas to provide services like meal assistance and physical examinations [3]. Conversely, localized imbalances are pronounced. In China's rural areas, coverage of basic services lags significantly behind urban regions. For instance, the utilization rate of Home- and Community-Based Services (HCBS) in rural areas (24.2%) is slightly lower than in urban areas (25.7%). This disparity prevents rural seniors from accessing the same level of services as their urban counterparts [7]. Western societies have also implemented corresponding measures. Data from Spain's Castile and León autonomous region (2007-2021) shows continuous growth in public and private non-profit nursing home beds and day care center capacity.

These services are integrated with initiatives like the “University Experience Program,” progressively expanding the coverage of basic services [2].

2.2. Social Participation: Multi-Faceted Engagement but Lacking Coordination Mechanisms

The increasingly diverse array of social forces within society, including social organizations, enterprises, and volunteers—has gradually supplemented community public services. However, insufficient coordination among these entities has led to mutual constraints. In community-based home care services, overlapping responsibilities and potential conflicts arise between subdistrict offices, neighborhood committees, homeowners' associations, and property management companies. Yet there is no unified coordinating body. For instance, neighborhood committees lack the authority to mobilize resources, making it difficult for them to persuade enterprises to open up their elderly care technology resources or demand additional service funding from the government.

2.3. The Contradiction Between the “Complex” Needs of the Elderly and the Supply Side's Focus on “Material Security”

The needs of the elderly extend beyond mere material necessities, presenting instead as “complex” demands that transcend basic sustenance and daily living. These needs increasingly center on emotional companionship, social engagement, and other multifaceted requirements. In China, 81.54% of seniors over 80 are widowed, and one-third of elderly individuals live alone. Older adults require psychological counseling and regular visits, not just activities centered around “board games and square dancing.” Simultaneously, globally, investments in mental health services for the elderly are generally lower than those for material services [4, 8].

These “complex” needs are not exclusive to the elderly; they represent humanity's spiritual pursuits distinct from material concerns. While technological advancements like artificial intelligence and Internet+ have significantly alleviated practical challenges in today's evolving society, community public services have increasingly been neglected. Beyond ensuring the basic material conditions for the elderly, safeguarding their spiritual well-being is equally vital. Addressing these “complex” needs can substantially enhance the quality and effectiveness of services provided.

3. Optimization Pathways for Community Public Service Models

3.1. Using a “Quantitative + Qualitative” Assessment Approach

Relevant departments can utilize smart devices to collect data, gathering elderly health information through “health kiosks” and “smart blood glucose monitors.” Concurrently, they can draw inspiration from Japan's “elderly care knowledge assessment” to design a “service awareness measurement scale,” quantifying the elderly population's understanding of community services. This approach prevents underestimation of needs arising from insufficient awareness [1]. Concurrently, employing methods like interviews to uncover unvoiced or overlooked needs enables in-depth research on the elderly population. This approach not only addresses hidden demands but also continuously enhances expertise and knowledge in this domain.

3.2. Coordinate Government, Enterprises, and Social Organizations to Balance Supply and Demand Resources

First, the government must take a leading role, drawing on Spain's practice of standardizing regional needs assessment formats through the STATIS methodology [2]. It should issue guidelines for evaluating community elderly needs, incorporating “needs alignment” into service evaluations to replace quantitative metrics like “bed capacity.” This approach must focus on service content rather than merely meeting seniors' material requirements. Second, enterprises can leverage their technological capabilities to develop health monitoring apps with real-time feedback functionality. The most critical consideration is simplifying the design to ensure ease of use for the elderly. Finally,

social organizations can utilize their flexibility to conduct surveys on the emotional and unspoken needs of the elderly.

3.3. Building a One-Stop Service Platform

Integrate scattered service functions within the community. Beyond basic meal provision and care services, incorporate convenient services such as financial assistance, legal support, and postal/courier services [6]. Tailored to each region's characteristics, community centers can feature book corners, dispute mediation rooms, and other specialized spaces, transforming senior communities into multifaceted service platforms. This approach reduces the burden of administrative complexities on community services. A one-stop service platform minimizes redundant efforts in senior community care while addressing the genuine needs of the elderly population.

4. Challenges

The imprecision of multi-dimensional needs assessment systems and their weak dynamic adaptation capabilities represent significant challenges that must be overcome in contemporary senior community services. Existing assessment systems are constrained by incomplete coverage of needs dimensions, obstacles in data collection, and inadequate dynamic adjustment capabilities, thereby failing to accurately identify the “complex” needs of the elderly. These factors constitute the primary bottlenecks in optimizing services.

4.1. Insufficient Longitudinal Data Leads to Delayed Dynamic Ddaptation Capabilities

Most panel data on community services in China only cover a span of 5 to 8 years. The needs of older adults exhibit dynamic characteristics as they age and their health status changes, yet there is a lack of longitudinal data to support dynamic adjustments [9]. Simultaneously, the “complex” needs of older adults cannot be swiftly addressed. Recognizing the necessity of such needs to establish relevant systems requires time. Furthermore, there are no corresponding community services for older adults with illnesses or disabilities. The “professional care + informal support” needs of older adults with dementia in rural Appalachia, USA, demonstrate that group needs assessments must be linked to disease types and family support circumstances [10]. In this era of technological advancement, older adults may struggle with using electronic devices, leading to incomplete and inaccurate data collection.

4.2. Incomplete Coverage of Demand Dimensions

In China, 81.54% of the elderly population is widowed, with over one-third being empty-nest seniors. They urgently require psychological counseling and intergenerational interaction. However, mental health indicators account for less than 20% in existing assessment systems, leading to persistent neglect of these needs in service planning [4]. Globally, only 33% of the Japanese public accurately understand public eldercare systems and community service processes [1]. China faces similar challenges—some seniors remain unaware of available services and application procedures, resulting in their most critical needs going undetected and unassessed. This creates a bias where “unvoiced needs are deemed nonexistent.”

4.3. Data Collection is Constrained by Cognitive Education and Regional Technological Barriers

Multi-dimensional assessment is a data-driven evaluation system. However, due to older adults' limited familiarity with emerging technologies and theoretical knowledge, coupled with regional imbalances in technological resource allocation, the collected data often lacks comprehensiveness and accuracy. Only 30% of China's elderly population can proficiently use smart devices. If assessment methods like “online questionnaires” are employed, data from 70% of seniors would be overlooked. Furthermore, smart coverage in China's rural communities falls below 10%. Such

regional disparities in technological resources constitute a significant factor contributing to data bias [4,8]. This issue transcends national boundaries, representing a global challenge. In Spain's Castile and León autonomous region, data gaps in rural service coverage reach 25%, preventing home healthcare services for rural seniors from being incorporated into evaluation systems due to insufficient data [2].

4.4. Trust Crisis Constrains Technology

Older adults generally exhibit heightened sensitivity regarding the privacy of their personal data, yet current community public service technologies lack robust security safeguards. The issues primarily stem from two sources: First, data storage and transmission carry risks of leakage, as some low-cost smart devices used in communities lack encryption systems, resulting in incomplete protection for certain data [6]. Second, the boundaries of data usage are unclear. Governments and businesses fail to explicitly inform seniors about “data usage purposes,” and some seniors' data is used for commercial advertising pushes, causing resentment among the elderly.

5. Conclusion

This study employs both literature review and data analysis methods, integrating theory with practice. On the one hand, based on the core findings from 10 relevant studies, it examines the current state of research and key issues surrounding community public services in aging societies globally and in China. On the other hand, it integrates multidimensional data—such as Japan's 2022 proportion of population aged 65 and above, China's scale of elderly individuals with disabilities or partial disabilities, and Spain's Castile and León autonomous region's elderly care resource data from 2007 to 2021—to provide empirical support for analyzing the current state, diagnosing problems, and optimizing pathways for community public services. In policy formulation, legislation should be advanced to promote cross-departmental data sharing, breaking down “information silos.” A dedicated fund should be established to support smart aging infrastructure in rural communities, thereby narrowing regional technological disparities. Technologically, standards must be developed for smart aging devices and systems to ensure ease of use for seniors. Digital platforms should be designed with elderly users in mind, featuring simplified interfaces and intuitive operation. Strengthen outreach for community services through in-home consultations and neighborhood lectures to enhance seniors' awareness of available support. Finally, establish data security oversight mechanisms to regularly audit data protection measures for smart community services. Clearly define data usage responsibilities for both government and enterprises, strictly prohibit misuse, and rebuild seniors' trust.

Future research can focus on three key areas: extending the data collection cycle for community service panels by establishing cross-regional, long-term dynamic databases to enhance tracking capabilities for changes in elderly needs. Refining the dimensions of needs assessment to align with the “complex” needs of older adults, incorporating mental health requirements and specialized disease-related needs to build a more comprehensive evaluation system. Exploring mechanisms for technological security and trust-building, developing digital platforms tailored for the elderly, and strengthening data privacy protection to prevent incidents such as data breaches.

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