

Research on the High-Quality Development of Public Services for National Fitness

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Abstract

Promoting the high-quality development of public services for national fitness is an essential measure to meet the people's growing need for a better life. The literature review and theoretical analysis are used in this paper to analyze issues hindering the high-quality development of national fitness public services in China, including structural contradictions between supply and demand, unbalanced regional development, and insufficient levels of digital and smart service integration. On this basis, optimization pathways are put forward for advancing the high-quality development of national fitness public services.

Keywords

National Fitness, Public Service, High-Quality Development

1. Introduction

In March 2021, The Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Range Objectives Through the Year 2035 explicitly proposed "promoting high-quality development" as a central theme. In October 2022, the report of the 20th National Congress of the Communist Party of China further emphasized that "high-quality development is the primary task in building a modern socialist country in all respects." It is thus evident that high-quality development will remain a key focus across all sectors during the 14th Five-Year Plan period and beyond. The sports sector is no exception. The 14th Five-Year Plan for Sports Development identifies "promoting high-quality development" as its guiding principle. The concept of "national fitness for national well-being" underscores the multifaceted value of fitness in enhancing public health and meeting the people's growing aspirations

for a better life. Building a high-quality public service system for national fitness is therefore a vital vehicle for advancing both a “Healthy China” and a “Strong Sports Nation”. At present, fitness activities and sporting events are flourishing across the country, and public enthusiasm for exercise continues to rise. However, issues such as structural imbalances between supply and demand, regional and urban-rural disparities, and limited levels of smart service integration continue to hinder the high-quality development of national fitness public services. Thus, a thorough analysis of the significance, challenges, and optimization pathways for promoting high-quality development in this area is not only essential for improving the efficiency and quality of public fitness services but also of great practical importance for advancing the national fitness initiative and fulfilling people’s aspirations for a better life.

2. The Practical Significance of High-Quality Development of Public Services for National Fitness

2.1. An Inevitable Response to the Growing Health Demands of the Public

With the continuous deepening of health concepts, people’s demand for fitness has gradually evolved from a single, homogeneous approach to one that is scientific, diversified, and personalized. The “upgraded” public services for national fitness have become an indispensable part of residents’ lives. Therefore, promoting the high-quality development of public services is not only a strong response to the shift from “passive fitness” to the “proactive health” concept but also a key measure to safeguard residents’ health rights and interests, and meet people’s aspirations for a better life.

2.2. An Important Measure to Keep Pace with Social Development and Enhance Overall Benefits

National fitness initiatives promote health and well-being, whereas physical inactivity and sedentary behaviors contribute to the rise of noncommunicable diseases and impose a growing burden on healthcare systems. WHO showed that the global economic burden of physical inactivity on public healthcare systems is projected to reach approximately US\$300 billion between 2020 and 2030—equivalent to around US\$27 billion annually—if current inactivity levels remain unchanged (WHO, 2024). Besides, studies have shown that physical inactivity is related to higher healthcare costs (Uijvestijn, De Wit, Van Gils et al., 2023). With the accelerating trend of population aging, China is expected to face significant challenges in maintaining public health and controlling medical expenditures. While national fitness provides low-cost, effective early intervention measures for residents. This not only helps prevent diseases and reduces social medical expenses, but also contributes to enhancing the physical and mental health of the people, as well as strengthening interpersonal connections. The role of national fitness in boosting national happiness and social cohesion is irreplaceable.

2.3. Stimulating Domestic Demand and Boosting Economic Transformation

High-quality public services for national fitness form the foundation for nurturing the sports consumption market. In recent years, various regions have used the development of national fitness as an entry point, tapping into its potential to expand sports consumption, resulting in significant economic and social benefits. According to the data, by the end of 2023, the total sports consumption scale in Henan Province had reached 140.3 billion yuan, with per capita sports consumption at 1429 yuan (He, 2025), and Fujian Province hosted over 5600 public sports events, attracting 5.4 million participants and driving over 1 billion yuan in consumption (Liu, 2025). These figures demonstrate that the supply of high-quality national fitness public services not only meets the people's diverse fitness needs but also fuels the growth of industries such as sports training, smart equipment, and sports tourism, becoming a new driving force for stimulating domestic demand and promoting industrial upgrading.

3. Issues in the High-Quality Development of Public Services for National Fitness

3.1. Prominent Structural Contradictions between Supply and Demand

China has largely established a public service system for national fitness, providing strong support to meet residents' growing needs for a better life. However, structural contradictions between supply and demand remain a prominent issue. These contradictions can be seen in two key aspects: 1) Imbalanced Service Supply. At present, there remains a coexistence of "underutilization" and "overcrowding" in some public sports facilities in China. Influenced by disparities in socioeconomic development levels and spatial layouts, many large-scale comprehensive sports venues are facing low utilization rates due to remote locations, outdated operational models, and high maintenance costs (Chen & Zhong, 2018). In addition, some school sports facilities have not been effectively opened to the public because of management and safety concerns, resulting in a high idle rate as potentially available public resources are "locked" within campuses (Wang & Liu, 2020). Meanwhile, during peak hours in the morning and evening, community fitness spaces are generally overcrowded, and facility resources are stretched to their limits, indicating that public sports resources have not yet been scientifically allocated or efficiently shared. 2) Extensive Service Supply: At present, public services for national fitness are primarily government-led, and a people-centered service model has not yet fully emerged (Zheng & Xu, 2025). As a result, the services provided are often homogeneous and fail to cater to the personalized fitness needs of different groups. For instance, the supply of fitness services for the elderly, including age-appropriate facilities, and the provision of barrier-free fitness facilities and specialized rehabilitation services for people with disabilities, are still insufficient and need significant improvement.

3.2. Regional and Urban-Rural Development Imbalance

By the end of 2024, China had a total of 4.8417 million sports venues, covering an area of 4.23 billion square meters, with a per capita sports venue area of 3.0 square meters nationwide (Zhao, 2025). These figures show that the great progress had made in the popularization and equalization of public fitness services in terms of hardware development. However, challenges of underdevelopment and imbalance still hinder the effectiveness of national fitness services. Firstly, Underdevelopment: Due to the early advantages of economic development, the eastern coastal regions have relatively complete infrastructure networks and service systems, with a diverse range of sports venues and high levels of smart technology integration, supported by stable financial investments. However, some western regions still face issues such as outdated fitness facilities, limited functionality, and insufficient funding for operation and maintenance, resulting in much lower service capacity compared to the eastern regions (Wang & Pang, 2020). Secondly, Imbalanced Development: While urban communities have gradually established “15-minute fitness circles”, with a combination of large sports complexes, professional gyms, and community fitness paths creating a diverse fitness service network, while rural areas remain a weak point in the provision of national fitness public services. In rural regions, sports facilities are sparse, limited in variety, and suffer from outdated infrastructure and inadequate supervision and maintenance, making it difficult to ensure that rural residents can equally access high-quality fitness services.

3.3. The Need to Enhance Smart Integration

The application of digital technology in public services for national fitness can significantly improve the convenience and efficiency of service provision. However, several challenges are still faced for these services in the level of digitalization and smart integration. First, insufficient digital resource sharing: Despite ongoing national policy efforts, local governments have implemented digital initiatives to improve the informatization of national fitness services. However, there is still a lack of mechanisms for sharing digital resources between sports departments, sports venues, and commercial fitness platforms. This results in a disjointed approach, where fitness resources and user data are not interconnected, creating “data silos”. Fragmented data hinders that the authorities aren’t able to accurately analyze the development of the national fitness initiative and optimally allocate fitness resources. Additionally, this fragmentation makes it difficult to offer high-quality, cross-regional fitness services to the public. Second, low levels of smart service integration: By 2024, nine provinces in China have developed electronic fitness maps for national fitness services. However, 18 provinces, including Xinjiang, are still in the planning or development stages, with the central and western regions significantly lagging behind the east in terms of smart service applications (Zhong, Wu, & Chen, 2024). In some regions, public fitness service platforms and sports venues have implemented basic functions such as facility reservations and self-service payments. However, personalized services like customized fitness

plans and advanced smart fitness guidance are still lacking, and there is no full integration of intelligent services throughout the fitness process. As such, the slow development of smart public services for national fitness has become a key bottleneck, both in terms of service management efficiency and in meeting the diverse fitness needs of residents.

4. Optimization Pathways for the High-Quality Development of Public Services for National Fitness

4.1. Precision-Oriented Approach: Optimizing the Supply Structure

To advance public services for national fitness into a new stage of high-quality development, a precision-oriented approach should be adopted. First, a regularized demand feedback mechanism should be established. By utilizing questionnaires, community interviews, and big data analytics, authorities can accurately identify residents' fitness needs and build multi-dimensional and precise user profiles, thus providing a reliable basis for more precise service delivery. For instance, data from venue reservation systems can be used to calculate facility utilization rates across different times and locations, identify peak demand periods and popular activities, and analyze low-usage areas or venues, thereby providing references for optimizing facility layout. Meanwhile, fitness apps such as Keep, Co-do, and Huawei Health collect data on steps, heart rate, exercise type, duration, and frequency, enabling the analysis of exercise preferences and behavioral patterns among different population groups (e.g. youth and older adults). By integrating geolocation data, it is also possible to identify the spatial distribution patterns of users' regular exercise activities, offering insights for improving community fitness facility planning. Furthermore, by leveraging platforms such as Xiaohongshu, Weibo, and Douyin, natural language processing (NLP) techniques can be applied to identify trending sports and fitness topics, effectively uncovering emerging fitness needs and popular new trends. Second, efforts should be made to enhance the differentiated and personalized supply of national fitness public services. To meet the needs of an aging population and address the shortage of youth-oriented fitness facilities, communities should actively introduce age-friendly fitness equipment and programs focused on fall prevention, flexibility maintenance, and rehabilitation training for older adults. At the same time, they should develop more challenging and engaging fitness services for young people, such as physical training camps, outdoor sports programs, and sports skill workshops. By shifting the focus from "availability" to "quality" national fitness public services can better satisfy residents' diverse and individualized needs, thereby maximizing their social benefits.

4.2. Equality-Oriented Approach: Promoting Fair and Inclusive Access

To address the uneven distribution of fitness resources and limited service cover-

age, promoting equalization should be the guiding principle. On one hand, the investment in public fitness resources should be increased based on factors such as population size, demographic structure, and local needs, with priority given to rural areas, former poverty-stricken regions, and remote mountainous zones. Local natural resources should be fully leveraged, and regional sports characteristics should be developed to compensate for deficiencies in rural fitness infrastructure. For instance, Guizhou Province, blessed with abundant mountainous and hilly terrain, has launched rock climbing, hiking, mountaineering, and cycling programs under strong governmental support, earning the province a reputation as an “outdoor sports paradise and sports tourism destination” (Zhang & Yao, 2023) and greatly advancing sports development based on its abundant natural resources. On the other hand, urban communities should make full use of underutilized “golden corners and silver edges” to expand fitness spaces. For example, Tongling City in Anhui Province transformed abandoned docks and shipyards into a riverside ecological sports park featuring multiple venues, which has since become a popular destination for citizens’ fitness and recreation (Lin, 2025). Meanwhile, attention should also be paid to the diverse fitness needs of different social groups. For working populations who are often unable to participate in daytime activities, local governments can implement “nighttime lighting programs” and extend gym operation hours to enable greater participation in fitness activities.

4.3. Intelligence-Driven Approach: Enhancing Service Efficiency

To improve both the quality and efficiency of national fitness public services, intelligent technologies should serve as the driving engine, propelling the system toward digitalization, networking, and smart transformation. First, efforts should be intensified to build comprehensive national fitness information platforms that integrate key functions such as facility booking, event registration, physical fitness monitoring, and scientific exercise guidance. These platforms should provide a seamless digital experience encompassing inquiry, reservation, payment, and feedback within a single smart service ecosystem. Second, the deep integration of Internet of Things (IoT) and artificial intelligence (AI) technologies should be promoted to enhance the user experience in public fitness participation. For example, the “Three Venues” of the Hangzhou Olympic Sports Center for the Asian Games were built using Building Information Modeling technology to create an intelligent, visualized Internet of Things (IoT) platform. This platform enables unified management and operation of the stadium, aquatic center, and supporting facilities, integrating venue maintenance, operations management, and event support into a single system. Through the smart visualization platform, administrators can schedule, monitor, and command venue operations in real time—tracking energy consumption, facility status, crowd flow, and traffic volume—thereby enhancing the overall efficiency of venue management (Jiang, 2022). Similarly, Chengdu Phoenix Mountain Sports Park has developed a visualized operations

and maintenance platform that upgrades management from two-dimensional to three-dimensional digital visualization. As a result, energy consumption has been reduced by approximately 15%, equipment lifespan extended by about 20%, and maintenance costs lowered by around 30% (Zheng & Xu, 2025). Finally, social enterprises should be encouraged to develop high-quality online fitness courses, promote AI-based virtual fitness coaches using computer vision technology, and improve data connectivity between wearable fitness devices and public service platforms. By combining users' static physical condition data with dynamic exercise data, systems can automatically generate and continuously optimize personalized "exercise prescriptions", achieving full integration between offline intelligent sports facilities and online scientific fitness guidance.

5. Conclusion

The high-quality development of public services for national fitness is a long-term and systematic undertaking, essential for fulfilling the people's aspirations for a better life. It requires addressing key challenges such as structural imbalances between supply and demand, regional development disparities, and low levels of smart integration. By advancing precision-based supply, empowerment through intelligent technologies, and equalized coverage, China can build a higher-level public service system for national fitness that is inclusive, equitable, green, and intelligent, thereby laying a solid foundation for the realization of both a Healthy China and a Strong Sports Nation.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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