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Community-Based Rehabilitation Human Resource Management in China: A Narrative Review and International Comparison

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Abstract

With the rapid aging of China's population, the rising prevalence of chronic diseases, and the implementation of the Healthy China 2030 strategy, community-based rehabilitation (CBR) has become increasingly significant for improving population health and social participation. Human resource management (HRM) is the cornerstone for ensuring the sustainability and quality of CBR systems. This review synthesizes domestic and international literature and policy evidence to summarize the developmental stages and structural challenges of China's CBR workforce, compares management models in the United Kingdom, Japan, Australia, and selected developing countries, and proposes policy pathways for governance modernization. Findings reveal that China's CBR workforce exhibits characteristics of developing scale, evolving structural composition, capacity-building needs at the grassroots level, and incentive mechanisms requiring further refinement. International experiences highlight that competency-based hierarchical training, outcome-oriented performance and compensation systems, and multi-sectoral collaborative networks are critical levers for promoting high-quality and sustainable CBR development.

Keywords: Community-based rehabilitation, Human Resource Management, Multidisciplinary team, Performance assessment, International comparison

1.0 INTRODUCTION

Rehabilitation is an essential component of the health-care system and a key pathway to achieving population health and social participation. The World Health Organization (WHO, 2017) has emphasized that rehabilitation should be integrated across prevention, treatment and long-term care, and that countries need multi-tiered networks with strong community and primary-care rehabilitation. In China, rapid population aging, the rising burden of chronic diseases and disability, and the limited accessibility of institutional rehabilitation services have together created a strong demand for community-based rehabilitation (CBR) and for a competent workforce to deliver it.

Over the past four decades, China's CBR has gradually moved from pilot disability-oriented projects to an integral part of the health system. Early documents such as the Outline of the Eighth Five-Year Plan for the Development of Disabled Persons (1988) and the State Council's Opinions on Strengthening Rehabilitation Work for Persons with Disabilities (1995) first positioned "community-based rehabilitation" as the foundation of disability services. Since the 21st century, policies including Healthy China 2030 and the Opinions on Accelerating the Development of Rehabilitation Medical Services (2021) have further emphasized the downward extension of rehabilitation resources, the strengthening of primary-level capacity, and the improvement of human-resource standards, training and incentive mechanisms. These shifts indicate that CBR human resources have become a strategic focus in current reforms in China.

However, despite a favorable policy environment and steady workforce growth, China's CBR human-resource system still faces multiple structural challenges: overall workforce density remains insufficient, the professional mix and urban–rural distribution are unbalanced, community-level competence is uneven, and performance assessment and career-development mechanisms are not yet aligned with patient-centered outcomes. Existing studies mostly discuss CBR service models, disability policy or clinical effectiveness, while relatively few take human resources as the main analytical lens, systematically linking policy evolution, workforce structure, capacity-building and governance tools. Internationally, countries such as the United Kingdom, Japan and Australia have accumulated rich experience in CBR workforce standardization, competency frameworks and performance-oriented management, but these experiences have not been fully compared or localized from a human-resource governance perspective.

Against this backdrop, this narrative review aims to fill this gap by: (1) outlining the evolution and current status of China's CBR human resources under the changing policy context; (2) identifying key structural bottlenecks in workforce quantity, composition, distribution, competence and incentive mechanisms; and (3) drawing on international CBR human-resource management models to distill transferable lessons and propose a governance framework suited to China's community and primary-care settings. This integrated perspective is intended to support the high-quality and sustainable development of CBR and to contribute to the realization of Healthy China.

■2.0 LITERATURE REVIEW

In recent years, China's CBR workforce has achieved notable progress in policy framework establishment, service coverage expansion, and personnel training. However, the sector continues to face developmental challenges characterized by workforce scale limitations, structural imbalances, capacity-building needs, and evolving incentive mechanisms. The sector remains in a transitional stage, with ongoing efforts to address staffing adequacy, distribution equity, and regional coordination. While national standards for workforce configuration are being developed, career pathways and job attractiveness require further enhancement. A closed-loop system linking training, utilization, and incentives is still being established to ensure sustainable workforce development.

2.1 Workforce Quantity and Structure

China's rehabilitation workforce has experienced steady growth in recent years, demonstrating the government's commitment to strengthening rehabilitation services. From 2016 to 2019, China's rehabilitation personnel density per 10,000 population increased from 1.60 to 1.88, according to the China Health Statistical Yearbook (National Health Commission, 2020). Nevertheless, workforce supply remains below growing demand driven by population aging and chronic disease prevalence. In 2019, there were 254 million people aged 60 years and older in China, with this number projected to reach 402 million (approximately 28% of the total population) by 2040 (WHO China, 2019). An estimated 460 million people (33.3% of the population) required rehabilitation in 2019, a figure projected to reach 636 million (45%) by 2034. Urban data show that Shanghai had only 0.22 rehabilitation physicians, 1.11 therapists, and 0.67 rehabilitation nurses per 10,000 population (Zheng et al., 2020), indicating continued needs for professional hierarchy optimization. Overall, priorities include further expanding workforce size, optimizing professional structure, and strengthening grassroots deployment to meet rising demand.

2.2 Primary-Level Service Capacity

China has made significant progress in establishing community rehabilitation infrastructure at the grassroots level. A survey of 70 primary institutions in Shandong Province found that 67.14% had established independent rehabilitation departments, demonstrating institutional commitment to rehabilitation services (Yang et al., 2025). These facilities primarily provide physical therapy and traditional Chinese medicine-based rehabilitation services. However, capacity-building needs remain, as over 65% of these departments had fewer than 20 beds, and services for home-based and daily-living rehabilitation require further development (Yang et al., 2025). Similar findings in Jiangsu and Hunan indicate opportunities for equipment upgrading, service scope expansion, and strengthening of psychological and social rehabilitation components (Su, 2023). Enhanced referral and supervision mechanisms would further support service sustainability. Overall, China's community rehabilitation is transitioning from the "basic treatment–functional restoration" stage toward the multi-tiered, comprehensive systems seen internationally (WHO, 2021).

2.3 Competence of Village and Community Practitioners

China has invested substantially in training grassroots rehabilitation practitioners, achieving broad coverage of basic rehabilitation knowledge. A national survey of 3,916 village doctors showed that 94.6% could provide basic rehabilitation guidance, demonstrating the success of foundational training programs. Additionally, 61.1% possessed functional-assessment competence, reflecting growing technical capabilities at the village level. Further development opportunities exist in specialized areas including muscle-strength evaluation, individualized care planning, and psychosocial rehabilitation (Chen et al., 2025). Ongoing interdisciplinary training initiatives nationwide are addressing these needs (Sun et al, 2022). International experiences from Western countries, which maintain unified competency standards and continuous professional-development systems enabling seamless progression across levels, offer valuable references for China's capacity-building efforts (Xu, 2018; Nancarrow et al., 2020).

2.4 Management and Coordination Positions

China has established dedicated management and coordination positions to support integrated community rehabilitation delivery. In Shanghai, 4,812 rehabilitation coordinators and 811 street-level managers were employed, creating a substantial coordination workforce (Chen et al., 2012). This represents an important step toward systematic rehabilitation service management. However, workload distribution requires optimization, as one administrator often oversees more than 20 rehabilitation workers (Chen et al., 2012). Similar experiences in Beijing and Guangdong highlight opportunities for clearer role definitions and enhanced career mobility pathways (Lin et al, 2025). Strengthening digital management systems and integrated data platforms would further support performance tracking and evidence-based policy evaluation (Lin, et al, 2025). Establishing a comprehensive four-tier "municipal–district–street–community" management network with clearly defined duties, appraisal mechanisms, and training systems represents a priority for efficiency improvement and quality assurance.

■3.0 Comparative Experiences between China and Selected Countries

Building on the above review of China's CBR human resources, this section examines how other countries organize and govern their CBR workforce. Existing studies suggest three typical patterns: institutionalized multidisciplinary teams embedded in health systems, integrated long-term care–community networks for rapidly aging populations, and accessibility-oriented hybrid professional–volunteer models in resource-constrained settings. To capture these patterns and provide lessons most relevant for China, we focus on four representative cases: the United Kingdom, Japan, and Australia, which have relatively mature and standardized CBR workforce frameworks, and selected

developing regions such as Afghanistan, Malaysia, and Indonesia, which have developed innovative community- and volunteer-based schemes. The following subsections (3.1–3.4) outline their organizational structures and human-resource management mechanisms, forming the basis for the integrated policy implications discussed in Discussion.

3.1 United Kingdom: A Community Rehabilitation System Centered on Institutionalized Human Resource Management

The United Kingdom is one of the earliest countries to institutionalize a national public rehabilitation system. Its community rehabilitation services are centrally planned by the National Health Service (NHS), and human resource allocation follows the principle of "position-oriented and hierarchical authorization." The system is structured into three levels: central policy formulation – regional health authority staffing – local community rehabilitation center implementation.

At the organizational level, the UK has developed Multidisciplinary Teams (MDTs) as the core unit for delivering integrated community rehabilitation, promoted through policy initiatives including NHS England's New Care Models programme and the NHS Long Term Plan (Health Education England, 2021). These teams typically include rehabilitation physicians, physiotherapists, occupational therapists, speech and language therapists, rehabilitation nurses, social workers, and care coordinators, operating across primary, community, acute, and social care settings (Douglas et al., 2022).

The distinct features of the UK's rehabilitation workforce management include unified qualification certification, competency-based practice standards, outcome-oriented performance evaluation, and the integration of volunteer forces. All rehabilitation personnel must register with the Health and Care Professions Council (HCPC), which regulates over 280,000 professionals and requires regular continuing professional development (CPD) to ensure professional standards (HCPC, 2025).

Performance evaluation emphasizes outcome-based assessment, measured through functional improvement tools such as the Therapy Outcome Measure (TOM), EQ-5D quality of life assessments, and patient satisfaction surveys, with results directly linked to service quality improvement (Nancarrow et al., 2012; Chartered Society of Physiotherapy, 2025). Meanwhile, the UK actively integrates volunteer and support workers into its rehabilitation workforce, with local governments and voluntary organizations recruiting trained volunteer assistants, forming a multi-tiered rehabilitation workforce system characterized by "professional leadership + community participation" (NHS England, 2023). This institutionalized model creates a closed-loop system of medical leadership, social participation, and performance incentives, offering valuable insights for building sustainable community rehabilitation human resource systems.

3.2 Japan: A Multi-Level Rehabilitation System in the Context of an Aging Society

Japan has established the Community-Based Integrated Care System (chiiki houkatsu care system), which integrates medical care, nursing, prevention, rehabilitation, and life support into a unified service network. First proposed in 2003 with full implementation targeted by 2025, the system provides comprehensive services within communities of approximately 20,000 inhabitants (Tamiya et al., 2011; Song et al., 2019).

In human resource management, Japan implements a nationally standardized qualification system with rigorous registration and continuous education requirements. As of 2021, Japan had 192,327 physical therapists, 94,255 occupational therapists, and 36,255 speech-language-hearing therapists, representing the highest rehabilitation workforce density globally (Giang et al., 2022). Through the Long-Term Care Insurance (LTCI) system established in 2000, the government includes home-based rehabilitation within coverage, extending professional services into community settings. In 2019, approximately 4,600 facilities provided home-based rehabilitation to 115,000 recipients (Nomura et al., 2021). Community-Based Integrated Care Centers, established in every district since 2006, coordinate rehabilitation services through teams of public health nurses, social workers, and care managers (Tamiya et al., 2011). This multi-tiered system ensures smooth connections between acute medical rehabilitation, convalescent rehabilitation, and chronic-phase community rehabilitation, facilitating locally oriented professional development and career advancement pathways.

However, the Japanese model also has limitations: its rehabilitation services are highly dependent on the Long-Term Care Insurance system, leading to increased public expenditure burdens. In practice, service resources are disproportionately allocated towards the elderly, resulting in relatively insufficient services for children, individuals with mental disabilities, and those requiring vocational rehabilitation. Furthermore, while multi-professional collaboration is institutionalised, occupational barriers persist, and grassroots rehabilitation practitioners have limited influence in cross-departmental cooperation. These issues suggest that when drawing on Japan's experience, China should avoid an ‘ageing bias’ and ‘rigid occupational hierarchies’, ensuring institutional designs accommodate flexibility for different groups and cross-departmental collaboration.

3.3 Australia: A Community Rehabilitation Model Oriented Toward Social Inclusion and Accessibility

Australia’s community rehabilitation system is guided by the principles of social inclusion and service accessibility, forming a government-led yet socially participatory, multi-level human-resource management model. The National Disability Insurance Scheme (NDIS) has established a nationwide framework for community rehabilitation and long-term care. The rehabilitation workforce consists of public health institutions, non-profit organizations, and private rehabilitation providers. The government reimburses service fees through the NDIS funding pool based on indicators of functional improvement and quality of life (Productivity Commission, 2021). In terms of human-resource management, the Australian Department of Health introduced the Allied Health Workforce Strategy, which integrates professional registration, continuing education, and tele-rehabilitation training. This creates a competency-based professional development system that promotes skill upgrading and workforce adaptability. The model also enhances inter-regional resource sharing and remote

professional support, ensuring that patients in rural and remote areas can access multidisciplinary rehabilitation services. Overall, Australia's experience demonstrates how outcome-oriented governance, fiscal coordination, and digitalization can jointly improve both the efficiency and equity of community rehabilitation services.

3.4 Experiences from Developing Regions: Accessibility-Oriented and Hybrid Workforce Systems

In resource-limited developing regions, Community-Based Rehabilitation (CBR) has been widely adopted to achieve equitable access to rehabilitation services and promote social inclusion. Experiences from Afghanistan, Malaysia, and Indonesia show that a community-centered, volunteer-led, professionally supported hybrid workforce system can significantly expand service coverage and improve functional outcomes at low cost.

In Afghanistan, CBR programs implemented across 13 provinces adopted a "volunteer assistant + professional supervision" model, covering 48 districts with over 775 staff and 863 community volunteers. Research using propensity score matching and difference-in-difference analysis demonstrated that the program significantly improved access to physical therapy, assistive technology, employment, education, and advocacy services for people with disabilities, with particularly strong positive impacts on emotional well-being and social participation (Trani et al., 2021, 2022).

Malaysia established a comprehensive CBR system since 1984, adopting "accessibility–satisfaction–functional improvement" as core performance indicators. Studies showed high satisfaction rates (98% for centre-based and 89% for home-based services), with health service accessibility satisfaction ranging from 67.2% for rehabilitation/therapy to 79.0% for health campaigns, demonstrating outcome-based human resource allocation and service quality improvement (Hasan et al., 2021; Ishak et al., 2025).

Indonesia established a "CBR Cadre" system where trained volunteers from local villages receive training from general practitioners, physiotherapists, or rehabilitation physicians to handle home rehabilitation and follow-up services. These cadres identify people with disabilities, facilitate access to healthcare providers, and ensure treatment compliance under periodic professional guidance, promoting the professionalization and institutionalization of grassroots rehabilitation (Nugraha et al., 2021; Lysack & Krefting, 1993).

Collectively, these practices demonstrate that governments in less-developed regions can achieve sustainable and inclusive community rehabilitation workforce systems through standardized training, task stratification, and diversified funding mechanisms—effectively integrating volunteer and professional forces to expand service coverage while maintaining quality outcomes.

■4.0 DISCUSSION

4.1 Structural Challenges in China's Community Rehabilitation Human Resource System

This study reveals that China's community rehabilitation workforce, while achieving notable progress in policy development and service expansion, faces interconnected challenges across four dimensions. Institutionally, unified national standards for workforce allocation and competency frameworks remain under development, with fragmented local policies hindering standardized management (Zhang et al., 2024). Structurally, workforce density increased from 1.60 to 1.88 per 10,000 population (2016-2019), yet lags far behind demand projections—with rehabilitation needs expected to reach 636 million people (45% of population) by 2034. The "strong top, weak bottom" pattern persists, exemplified by Shanghai's low ratios of 0.22 physicians, 1.11 therapists, and 0.67 nurses per 10,000 population (Chen et al., 2012). Regarding capacity, while 94.6% of village doctors provide basic rehabilitation guidance, only 61.1% possess functional-assessment competence, with significant gaps in specialized skills (Liu et al., 2023). Training systems lack systematization and continuity (Yang et al., 2025). For incentives, quantity-oriented performance evaluations fail to reflect rehabilitation quality or patient outcomes, while management positions face workload imbalances and limited career mobility (Zhao, 2023; Li et al., 2022). Low digitalization and fragmented data systems further impede scientific resource allocation (Zhang, 2024).

4.2 Principles from International Practices

Based on the comparative analysis between China and selected countries such as the United Kingdom, Japan, Australia and several resource-constrained settings, international experiences in community rehabilitation demonstrate that sustainable workforce development depends on three interrelated principles: institutional standardization, collaborative governance, and performance-oriented sustainability. Together, these principles provide a transferable—yet not mechanically replicable—framework for further strengthening China's community rehabilitation human-resource system on the basis of its existing achievements.

First, a clear and unified institutional framework forms the foundation of effective workforce management. Mature systems emphasize national competency standards, standardized qualification and registration systems, and mandatory continuing professional development (CPD) to ensure professional accountability and mobility. These mechanisms establish transparent pathways for training, certification, and career advancement while safeguarding service quality. Compared with these systems, China has already made important progress by incorporating rehabilitation into national health strategies and issuing guidance on rehabilitation service development, but its competency standards and allocation norms for community-level human resources remain under refinement. For China, the priority lies in building a national competency-based framework that defines the roles, skill levels, and performance expectations for physicians, therapists, nurses, and social workers. Aligning education, licensing, and evaluation under a unified standard would address fragmentation and raise the professionalization of community rehabilitation practitioners, while allowing room to develop a CBR workforce system with Chinese characteristics that fits domestic service patterns and governance structures.

A second shared principle is the importance of coordination across disciplines, sectors, and social actors. Successful international models highlight the integration of medical professionals, community organizations, and volunteers into cohesive multidisciplinary teams, supported by digital coordination platforms. Such hybrid "professional + community" models expand service coverage, enhance continuity of care, and foster social inclusion—particularly critical in underserved or rural regions. China's existing practices in family doctor contracts, medical alliances, and disability service networks already provide a foundation for cross-sector collaboration, but the integration of rehabilitation resources into these platforms is still incomplete. For China, promoting cross-sectoral collaboration between the health, civil affairs, and disability systems and introducing community participation through social organizations and NGOs can create a social co-governance system. Digital governance platforms and tele-rehabilitation further enhance coordination and equity in service access and should be adapted to China's diverse urban–rural contexts rather than simply copying foreign models.

The third principle concerns establishing an outcome-driven and financially sustainable system. International experience shows that quality improvement depends on linking funding and performance evaluation to measurable outcomes such as functional recovery, social participation, and quality of life. Moving away from volume-based metrics toward outcome-based assessment encourages professional motivation and accountability. Simultaneously, diversified financing mechanisms—combining government investment, insurance payments, and social procurement—ensure long-term workforce stability and innovation capacity. China has already taken initial steps in exploring value-based payment and integrating rehabilitation into medical insurance benefit packages; however, community-level indicators and payment models specific to rehabilitation remain underdeveloped. For China, adopting performance-based payment mechanisms and integrating data-driven digital monitoring could create a self-reinforcing system of quality improvement and sustainability in community rehabilitation services, while leaving policy space to reflect national priorities such as primary health care strengthening and rural revitalization.

Operationalizing these three principles in China aligns with six implementation levers detailed in Section 4.3—standard-setting, educational professionalization, organizational collaboration, outcome-based incentives, digital governance, and social co-governance—thereby converting governance principles into implementable pathways. In this sense, international experiences serve as reference points rather than blueprints; the ultimate goal is to draw on these principles to build a community rehabilitation human-resource management system with Chinese characteristics, rooted in China's institutional context, demographic trends and community service traditions.

4.3 Strategic Framework and Policy Implications for China

Building on the comparative findings and drawing conceptually on the WHO health-system building blocks and health workforce governance literature (e.g. policy and institutional arrangements, financing and incentives, service delivery organization, information systems, and community participation), six key levers can be identified for strengthening China's community-based rehabilitation (CBR) human resource management. These levers also echo core ideas in the Human Resources for Health (HRH) action frameworks, which emphasize aligning governance, education, deployment and performance management within a coherent system. At the institutional level, a unified competency-based standard is needed to clarify duties, performance criteria and qualification requirements for physicians, nurses, therapists, social workers, assistive-technology specialists and mental-health professionals. In education and training, integrated pathways that connect pre-registration education, continuing professional development and re-certification can foster lifelong learning and professional growth. Performance management should shift from quantity-oriented to outcome-oriented assessment, linking payment and incentives to accessibility, client satisfaction and functional improvement, in line with the increasing emphasis on functioning and participation outcomes in the WHO ICF framework. In terms of organizational design, hybrid staffing models that combine community volunteers, professional supervisors and tele-support, together with regional human-resource alliances, can alleviate the "strong top, weak bottom" pattern. Cross-sector collaboration across health, civil affairs, education and disability systems, complemented by NGOs and social enterprises, can form a social co-governance system. Finally, digital governance is crucial for building information platforms that support real-time workforce matching, performance monitoring and evidence-based decision-making.

On this basis, a six-pillar strategic framework for China's CBR human-resource development is proposed: *(1) Institutional Standardization* - Establish unified "Community Rehabilitation Human Resources Standards" that define competency levels, job responsibilities and performance expectations for key professional groups. These standards should underpin workforce planning, education curricula, licensing and evaluation, reducing fragmentation and raising professionalization at the community level, corresponding to the "stewardship and regulation" functions in health-system governance models.

(2) Educational Professionalization - Develop integrated talent pipelines connecting university education, on-the-job training and continuing development. Modularized, practice-integrated programs with dual "academic plus credential" routes can specifically address current gaps in functional assessment, psychosocial rehabilitation and case management competencies, while supporting career progression for CBR practitioners. This is consistent with HRH frameworks that highlight education and continuous professional development as key drivers of workforce quality.

(3) Organizational Collaboration - Promote hybrid staffing models that combine volunteers, community workers and family caregivers with professional supervisors and tele-rehabilitation support. Establish medical-alliance-style regional networks that enable workforce sharing and multidisciplinary teams with clearly defined roles, thereby mitigating urban–rural disparities and the "strong top, weak bottom" structure. Such arrangements operationalize collaborative governance by linking service-delivery organizations across levels and sectors.

(4) Performance Incentives - Transition from volume-based assessment to outcome-oriented evaluation using tri-dimensional frameworks that incorporate service accessibility, user satisfaction and functional improvement. Link reimbursement and incentives to quality indicators through value-based payment reforms, supported by validated assessment tools adapted to China's primary-care and

community settings. This reflects the principle of performance-oriented sustainability in HRH governance—using financial and non-financial incentives to align professional behaviour with population health goals.

(5) Digital Governance - Build national and regional CBR information platforms that integrate data on workforce, services and outcomes. These platforms should enable real-time workforce allocation, performance monitoring and quality evaluation, while supporting tele-rehabilitation and remote supervision to improve access in underserved areas. In health-system terms, this strengthens the "information" building block and provides the evidence base for adaptive governance and learning.

(6) Social Co-Governance - Establish coordinated governance mechanisms that integrate health, civil affairs, education and disability sectors, and encourage the participation of NGOs, social enterprises and community organizations through government procurement and partnership schemes. Standardized volunteer recruitment, training and supervision systems can turn community participation into a stable, high-quality supplement to the professional workforce. This resonates with "whole-of-society" and "community engagement" concepts in public-health governance, while allowing China to build a CBR governance model that reflects its own institutional arrangements and community traditions.

Together, these six pillars translate international principles into a context-sensitive roadmap for China, linking institutional standardization, collaborative governance and performance-oriented sustainability to the concrete reform tasks of CBR human-resource development. They do not seek to replicate any single foreign model, but rather use international frameworks as analytical references for developing a community rehabilitation human-resource management system with Chinese characteristics. A schematic representation of this framework (Figure 1) can depict three overarching principles—institutional standardization, collaborative governance and performance-oriented sustainability—at the top, feeding into the six operational pillars described above, with improved accessibility, quality and equity of CBR services as the ultimate outcomes.

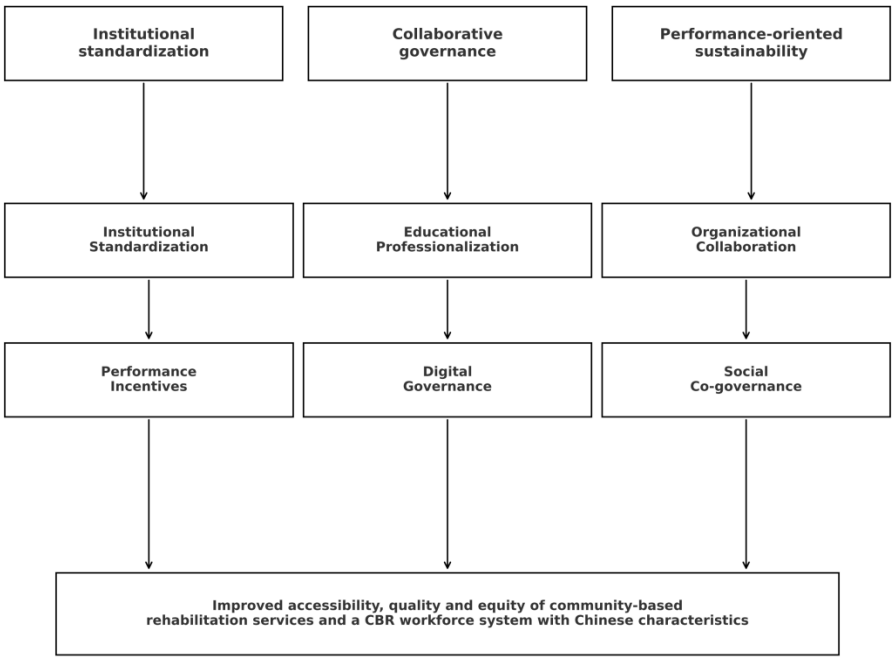

Figure 1 CBR HRM Framework

■5.0 CONCLUSION, LIMITATIONS AND FUTURE DIRECTION

China's community-based rehabilitation (CBR) human-resource system is undergoing a critical transition from rapid expansion to quality improvement and sustainable governance. Despite substantial achievements in policy development, service coverage, and training, persistent challenges remain in institutional fragmentation, workforce imbalance, and weak incentive mechanisms. International experiences demonstrate that high-performing CBR systems are built upon three interdependent pillars: institutional standardization, collaborative governance, and performance-oriented sustainability. For China, the modernization of its CBR workforce requires establishing unified competency frameworks, developing integrated multidisciplinary and community-based networks supported by digital platforms, and adopting outcome-based evaluation and financing mechanisms that link reimbursement to functional recovery and patient satisfaction. Advancing these reforms will strengthen professional accountability, promote equitable access, and enhance service quality

across regions. Ultimately, the modernization of human-resource governance is not only a technical reform but a strategic foundation for realizing the goals of Healthy China 2030 and ensuring inclusive, people-centered rehabilitation for all.

This study has limitations. First, regional variation analysis was constrained by data availability; future research should examine implementation differences across provinces. Second, cost-effectiveness comparisons between staffing models require longitudinal data. Third, optimal professional-volunteer ratios for different service types need empirical investigation.

Future priorities include: (1) piloting competency standards and outcome-based payment models in selected regions; (2) establishing integrated data platforms in major cities; (3) creating sustainable volunteer training systems in resource-limited areas; (4) evaluating intervention effectiveness through controlled trials; (5) conducting longitudinal studies tracking workforce development and patient outcomes; and (6) exploring innovative models adapted to China's diverse urban-rural contexts. Implementation should proceed incrementally, with evidence-based refinement. By systematically addressing institutional, structural, capacity, and incentive dimensions—learning from international experiences while adapting to China's context—the nation can build a sustainable, equitable community rehabilitation workforce meeting aging population needs and advancing Healthy China 2030 goals.

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