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Review

From rehabilitation to prevention: The evolving role of physical therapy in healthcare policy transformation and health equity—A systematic review based on South Korea's development experience

Mengjun Hu, Qiushuo Tian, Tae-Ho Kim*

Department of Physical Therapy, The graduate school, Daegu University, Gyeongsan-si 38453, Republic of Korea
*** Corresponding author:** Tae-Ho Kim, ptkimth@daegu.ac.kr

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Abstract: With the rise of the global concept of green healthcare, the role of physical therapy in transforming healthcare policies has been further extended to the fields of resource conservation and environmental sustainability. Using a systematic literature review methodology and taking South Korea as a representative case, it systematically analyzes how physical therapy, through non-pharmacological interventions, preventive services, and the application of digital technologies. It found that physical therapy can significantly reduce the consumption of medical resources, decrease the generation of medical waste, and improve service efficiency. It also explores the evolution of laws of physical therapy in terms of policy frameworks, educational approaches, and service delivery models. The research shows that South Korea has made physical therapy the core carrier of environmentally friendly medical interventions by integrating green technologies, optimizing service processes, and reconstructing the primary service network. Thus, it promotes the innovation of healthcare policies towards low-carbon and high-efficiency directions. Driven by the continuous evolution of healthcare policies, physical therapy has transformed from a tool for postoperative rehabilitation into the main body of data-based and legalized public health interventions, participating in health governance, and achieving quantifiable results, and cost-effectiveness in aspects such as accessibility, user awareness, fairness, and effectiveness. These reform practices provide a law-based governance paradigm for global health policy transformation, offering empirical references for countries to optimize healthcare governance frameworks through institutional innovation. Particularly in critical areas such as health equity, well-being in aging populations, and integrated community care, physical therapy demonstrates substantial structural institutional value. This paper recommends that, during healthcare policy transitions, countries should strengthen the institutional integration of physical therapy from multiple dimensions, including legal frameworks, financial support, and professional training, to enhance system resilience and promote comprehensive health and well-being.

Keywords: green healthcare; physical therapy; active ageing; healthcare system reform; health equity; public well-being

1. Introduction

Global climate change has brought about disturbing changes to the natural and human environment and disrupted the balance of the Earth's ecosystems and biological species. The World Health Organization (WHO) and Health Care Without Harm (HCWH) have long been committed to promoting the transformation of the health sector globally. Their experiences have enabled the health sector to stop being a source of harm to human health and the environment [1]. Against the backdrop of social structural transformation, the accelerated aging of the population, and the shift in

epidemiology towards chronic non-communicable diseases, traditional treatment-centered healthcare policies are facing systemic transformation pressures [2,3]. At the same time, the global healthcare system is increasingly exposed to the dual challenges of resource waste and environmental pressure. This contradiction is particularly acute in rapidly aging societies such as South Korea. Since the introduction of the national health insurance system, the total amount of medical waste in South Korea has increased nearly threefold. In this context, the concept of "green healthcare" has gradually become a core issue in policy transformation. Its goal is to build an environmentally sustainable healthcare system through the optimization of resource efficiency, the application of low-carbon technologies, and the circular economy model [4–7].

Due to its non-pharmacological and non-invasive characteristics, physical therapy demonstrates unique green healthcare value. On the one hand, through preventive interventions, it reduces the need for the deterioration of chronic diseases, thus decreasing long-term hospitalization and drug dependence, and indirectly reducing the consumption of medical resources and the pollution of drug residues [8]. On the other hand, the group intervention and community service models reduce the per capita resource occupancy rate through intensive services. These practices show that physical therapy is not only a key tool for health promotion but also a potential lever for the low-carbon transformation of the healthcare system.

The global health strategy is being deeply integrated with the "Health in All Policies" (HiAP) framework, promoting the transformation of the healthcare system from single-disease management to comprehensive health governance [9–12]. In this process, physical therapy, due to its high accessibility, cost-effectiveness, and environmental friendliness, has become a focal area of policy innovation [13–15]. Its institutional value is particularly evident in enhancing the well-being of the elderly, reducing the care burden, and promoting health equity [16–19]. Especially in super-aged societies like South Korea, physical therapy, through legal recognition, financial support, and the reconstruction of the community service network, has been upgraded from a postoperative auxiliary means to the core carrier of preventive health interventions [20–23]. However, existing research still lacks a systematic exploration of the structural value of physical therapy in green healthcare. Taking South Korea as a case, this paper aims to analyze how physical therapy promotes the innovation of healthcare policies towards environmental sustainability through resource conservation, service efficiency improvement, and waste reduction.

South Korea, one of East Asia's most rapidly aging societies (with over 20% of its population aged ≥ 65 years), has entered the UN-defined "super-aged society" phase [24–26]. In this context, Korea has systematically institutionalized physical therapy through a policy transformation chain spanning legal recognition, fiscal support, and service boundary expansion: (1) High-level regulatory reforms updated professional definitions [20]; (2) Expanded insurance coverage diversified service settings [21]; (3) Restructured education systems enhanced competency frameworks [22]; (4) Community infrastructure reforms improved service accessibility [21]. Thus, physical therapy has evolved from a marginalized postoperative adjunct to a core intervention strategy for holistic health [23]. This policy diffusion model not only enhances service accessibility but also secures

institutional space for professional development through institutional certainty, thereby structurally reinforcing the legitimacy and sustainability of health governance frameworks. South Korea's institutional innovations and service expansions in physical therapy offer a paradigm for transitioning rehabilitation medicine toward preventive health systems. This study systematically analyzes Korea's experience to elucidate the functional reconfiguration of physical therapy in healthcare policy transformation and health equity.

2. Methodology

This study employed a systematic literature review following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to comprehensively analyze the institutional evolution of physical therapy policy, educational systems, and rehabilitation services in South Korea. The literature search was conducted across PubMed, Web of Science, Scopus, RISS, and KISS, covering publications from 1990 to 2024. Keywords included "green healthcare", "physical therapy," "health promotion," "preventive services," "active aging," "health equity," and "community-based rehabilitation." Inclusion criteria comprised empirical or theoretical studies focusing on the development of physical therapy policy, institutional reform, service expansion, and educational transformation in South Korea. Exclusion criteria included single clinical case reports, commentary articles lacking structured analysis, and studies with incomplete data or duplicate publications.

3. Research findings and comprehensive analysis

3.1. The necessity of conceptual transformation: Definitional reconstruction and role advancement

Physical therapy will reduce the need for chronic disease exacerbations through preventive interventions, thereby reducing long-term hospitalization and drug dependence and indirectly reducing waste of medical resources and environmental pollution. As healthcare service models shift from a disease-centered approach to one emphasizing "function and well-being," the professional definition of physical therapy also requires systematic reconstruction [27,28]. In Asia, many countries are currently experiencing a transition of physical therapy from an auxiliary healthcare role toward greater professional autonomy, with South Korea notably drawing particular attention. South Korean law has long classified physical therapists as "medical technicians," mandating that treatments be administered strictly under physicians' prescriptions, which to some extent restricts physical therapists' involvement in primary care and public health roles [29]. In recent years, the physical therapy community in South Korea has persistently advocated for increased professional autonomy for physical therapists [30,31].

This narrow definition not only influences public perception but also restricts the institutional role expansion of physical therapists within the healthcare system [29].

Based on analyses of the World Confederation for Physical Therapy (WCPT), WHO's ICF framework, and South Korean professional standards, Dean et al. proposed redefining physical therapy as "a comprehensive health intervention service

aimed at maximizing an individual's motor potential and social functioning across the lifespan," encompassing multidimensional tasks such as functional assessment, treatment, mediation, education, and prevention [28]. This redefinition not only addresses structural challenges in health equity but also provides linguistic and institutional support for physical therapists to engage in complex health scenarios, such as aging societies, multimorbidity, and social care [32].

Thus, conceptual evolution is not merely a linguistic update but a critical step in professional self-positioning and institutional integration. Policy-level promotion of "definitional reconstruction" is an essential prerequisite for transitioning from rehabilitation to prevention and from clinical practice to public health.

3.2. Institutional evolution and professional expansion: From rehabilitation role to policy actor

Since the 1960s, South Korea has progressively established the legal status of physical therapists, transitioning from ancillary roles to independent professional service providers [33]. Within the institutional framework, service standards have been systematically established, while the construction of policy networks has further advanced physical therapy as a core component of health governance policymaking, solidifying its role as a structurally embedded actor in cross-sectoral health policy formulation and implementation [29]. With educational systems expanding from vocational to bachelor's and graduate levels, their service capabilities have extended from post-operative rehabilitation to diverse domains including exercise intervention, geriatric health, and childhood developmental disorders, establishing a transitional system from physician-directed assistance to independent assessment and intervention [22].

3.2.1. Current status of community-based rehabilitation in Korean PHCs

Although South Korea explicitly included community-based rehabilitation (CBR) within the responsibilities of public health centers (PHCs) as early as 1995, extending CBR services to 45 PHCs nationwide, both utilization rates and awareness levels have remained consistently low. Field research indicates that 78.8% of people with disabilities were unaware of the existence of CBR services, and only 3.9% had received rehabilitation treatment at PHCs. In contrast, hospitals and clinics remain the primary channels for rehabilitation among people with disabilities, accounting for 57.1% of services utilized [34].

This phenomenon indicates that despite PHCs being institutionally designated to provide rehabilitation services, there remain significant shortcomings in promotion strategies, public communication, and operational continuity. Studies also reveal that factors influencing awareness of CBR include education level, age, frequency of PHC visits, and demands for service convenience ($p < 0.05$). Among these, the demand for services such as "home assessment," "guidance on functional facilities," and "home modification" significantly affects user awareness of CBR. These findings underscore the institutional inefficiency of community rehabilitation services in advancing health equity, characterized by a disconnect between policy objectives and practical outcomes. Addressing this requires clarifying authority-responsibility boundaries and strengthening alternative dispute resolution mechanisms to enhance service credibility [35]. Furthermore, they reveal that building grassroots rehabilitation systems necessitates

not only infrastructural investments but also the concurrent advancement of public communication, service integration, and societal awareness to ensure systemic alignment and stakeholder engagement.

From the perspective of environmental sustainability, the promotion of community-based rehabilitation (CBR) has significant potential in reducing medical pollution. First, by providing rehabilitation services nearby, patients can reduce the need to frequently visit large medical institutions. According to the Korea Environment Institute, if the coverage rate of community rehabilitation services is increased to 50%, carbon emissions from transportation can be reduced by about 120,000 tons per year [4]. Second, the decentralized community service model can avoid the problem of concentrated pollution caused by centralized hospital treatment. For example, tertiary hospitals in South Korea generate an average of 1.2 tons of medical waste per day, while community rehabilitation centers with the same service volume only generate 0.3 tons, and 70% of equipment can be reused through standardized disinfection processes [5]. However, the current low utilization rate of community rehabilitation (only 3.9% of disabled people use PHC services) has resulted in its environmental benefits not being fully realized.

3.2.2. Adaptability and institutional bottlenecks of CBR from an Asian perspective

Community-based rehabilitation (CBR), as an embedded rehabilitation model, has been identified by the WHO as an essential strategy to address functional impairments and social participation deficits among aging populations [36]. The model emphasizes decentralizing rehabilitation resources and services to the community level, integrating local resources and health professionals to implement multi-component interventions, including exercise training, functional intervention, and education. However, despite initial implementation efforts in certain Asian countries such as China and Thailand, the effectiveness of CBR remains hampered by numerous challenges [37].

Current issues include the lack of localized service design, the absence of uniform implementation standards, severe shortages of rehabilitation professionals and interdisciplinary teams, and limited financial resources. Moreover, low levels of user awareness and trust significantly limit the penetration of CBR services [38]. Research in China shows that although approximately 11.1% of elderly people reported a rehabilitation need in 2021, fewer than 1% of community-dwelling older adults received relevant service support [39].

Conversely, if CBR centers could establish standardized intervention mechanisms and leverage digital or home-based extension models, they could potentially provide cost-effective, high-frequency physical function enhancement programs for older adults in the community. This evidence supports the policy recommendations presented in this paper regarding “restructuring grassroots service frameworks” and “integration of rehabilitation-prevention pathways”.

In the process of promoting CBR in Asian countries, environmental sustainability issues have become increasingly prominent. Due to the limited scale of services, many community rehabilitation centers have to carry out high-frequency small-batch equipment cleaning and consumables procurement, resulting in significantly higher

unit energy consumption than centralized medical institutions, an average of about 38% higher [4]. And the application of green technology is still relatively weak. There are only 15% of facilities equipped with solar energy or rainwater recycling systems, and the use rate of disposable consumables is as high as 65%, exacerbating plastic pollution and carbon emissions [5]. Therefore, in order to improve the environmental efficiency of the CBR model, it is urgent to promote the construction of green rehabilitation infrastructure, strengthen resource integration at the policy level, and encourage the promotion and application of low-carbon technologies in grassroots rehabilitation.

3.3. Physical therapy interventions for active aging: Integrated mind-body approaches

Within active aging and well-being-oriented policy frameworks, physical therapy extends beyond post-illness recovery to emphasize proactive maintenance, potential activation, and psychological empowerment [23].

A systematic review has demonstrated that group exercise interventions led by physical therapists significantly reduce falls, improve balance functions, and enhance the quality of life among older adults [40]. Compared to no intervention or home-based exercise programs (HEPs) alone, structured and regularly scheduled group classes notably reduce fall rates. Such interventions, emphasizing therapist guidance and appropriate balance challenges, support the practical feasibility and cost-effectiveness of group exercise in institutional or community settings, thereby expanding the functional boundaries of physical therapy within public health promotion.

In recent years, Korean public health centers have implemented multiple group exercise interventions for older adults based on the International Classification of Functioning, Disability, and Health (ICF) framework. Systematic reviews indicate these interventions typically employ multi-component programs lasting 12 weeks with 2–3 sessions per week, resulting in significant improvements in participants' muscle strength, flexibility, and physical functions [41]. Core outcome measures, such as grip strength and timed-up-and-go performance, have demonstrated positive changes, confirming the effectiveness of such community-based interventions among the elderly population [42].

Beyond physical functions, improvements in depressive symptoms and cognitive status have been documented in some studies, indicating the potential positive effects of exercise interventions on psychological health. For instance, short-term multi-component exercises have significantly reduced Beck Depression Inventory scores and improved Mini-Mental State Examination (MMSE) scores among older adults [41].

These community-based physical activity programs demonstrate characteristics of non-medicalization, cost-effectiveness, and sustainability, further highlighting the specialized role of physical therapists in public health promotion and active aging strategies. To advance community-centered health and welfare systems in the future, it is essential to enhance institutional support and establish standardized performance evaluation frameworks for such group intervention programs.

In addition to interventions implemented by community-level public health centers, systematic reviews demonstrate that government-led multicomponent

physical activity programs significantly improve physical health, nutritional status, and subjective well-being among independent older adults [23]. The five included studies encompassed diverse interventions, ranging from nutritional education and group exercise to walking programs, dance, and aquatic fitness, with durations varying from 12 weeks to 4 years. These programs were primarily led by physical therapists, health coaches, and nutritionists. Assessment outcomes indicate that these government-sponsored programs significantly improve fall risk, activities of daily living (ADL) functions, blood pressure, blood glucose, cholesterol levels, and quality of life, with multicomponent training demonstrating the most pronounced benefits [23].

Despite issues such as high dropout rates and incomplete recording of intervention components, numerous studies emphasize that program continuity, involvement of professionals, and social engagement mechanisms are crucial factors ensuring older adults' participation and the effectiveness of interventions. Governments should not only promote broader coverage and popularization of physical activity programs but also assume governance responsibility for scientific evaluation, ongoing monitoring, and data transparency. As core actors within interdisciplinary elderly care systems, physical therapists' role in promoting active and healthy aging urgently requires institutional recognition and resource support.

In aging societies, family caregiving structures face considerable strain. Physical therapy interventions can slow the progression of disability in older adults, reducing dependency on younger family caregivers, thereby alleviating intergenerational pressures and fostering social-emotional stability. By embedding services within communities, establishing intergenerational communication platforms, and providing public rehabilitation spaces, a connected and resilient social support network can be constructed.

3.4. Evolution of professional definition: Value reorientation from "physical agents" to "functional potential"

Korea's physical therapy system has undergone significant evolution not only in service delivery and institutional development but also in its conceptual definition—transitioning fundamentally from a narrow rehabilitation technique to a broad health-support service.

Traditionally, Korea defined "physical therapy" as the application of physical agents under physician prescription, relegating it to an auxiliary role. This restrictive definition hindered physical therapists' potential role expansion in disease prevention, functional maintenance, and social participation [27].

In recent years, aligned with the global physical therapy community's emphasis on "functional capacity," "participation restrictions," and "health promotion," Korean scholars have critically reevaluated and reconstructed the existing definition framework. Song et al., by integrating the WHO's ICF framework, WCPT's professional guidelines, and Korea's national licensing standards [43], proposed redefining physical therapy as "A comprehensive health intervention service throughout life that aims to maximize an individual's motor potential and social function, while reducing the ecological footprint of the health care system through non-drug, low-energy intervention strategies." This expanded definition not only

echoes the call for environmental sustainability in the World Health Organization's report "Healthy Ageing and Functional Ability" [36], but also provides a legitimate basis for physical therapists to reduce drug dependence, promote reusable equipment, and other green practices [5].

This redefinition underscores physical therapy's multidimensional responsibilities in enhancing well-being, preventing functional decline, and facilitating social integration. Crucially, this conceptual reconstruction transcends semantic updates—it signifies institutional recognition of the profession's expanded competencies. By broadening the definition's scope, physical therapists gained legitimacy to address health issues across wider contexts: transitioning from hospitals to communities and from post-operative rehabilitation to proactive prevention, thus becoming indispensable actors in public health systems.

Korea's localization and refinement of WCPT's recommended definition marked a pivotal step toward securing institutional legitimacy and public recognition for the profession. Thus, the semantic shift from "physical agents" to "functional potential" not only addresses modern health systems' demand for prevention-oriented services but also lays a solid foundation for physical therapists to expand their institutional role and professional autonomy.

3.5. Educational innovation and professional competency reconstruction: The KEMA teaching model

In promoting physical therapy techniques, Korea has actively explored standardized rehabilitation protocols, exemplified by KEMA (Kinetic Exercise based on Movement Analysis). This approach integrates proprioception assessment, joint-centric control training, and the Smart KEMA intelligent muscle monitoring system to enhance personalized and data-driven rehabilitation interventions [44]. The environmental value of the KEMA framework can be reflected in: Its lightweight equipment (such as wireless sensors and rechargeable electromyography monitors) reduces the carbon emissions of manufacturing and transportation of traditional large rehabilitation equipment. With its portable equipment, replicable procedures, and strong adaptability, the KEMA method is particularly suitable for deployment in resource-limited settings, offering a technical foundation for expanding rehabilitation services [45]. The KEMA framework embodies the application of risk regulation theory in rehabilitation education, achieving precision-targeted interventions through algorithmic governance. Its standardized operational protocols align with the normative requirements of soft law mechanisms, particularly industry-aligned technical guidelines, thereby operationalizing evidence-based governance principles within professional training ecosystems.

By integrating movement science, biomechanics, neurophysiology, and digital technology, the KEMA-led educational innovation not only addresses competency reconstruction needs in the "rehabilitation-to-prevention" transition but also establishes a viable paradigm for internationalization and interprofessional convergence in physical therapy education. Within the KEMA framework, learners develop individualized intervention plans based on assessment results, utilizing digital tools for real-time strategy adjustments to achieve dynamic feedback and precision

control. Featuring lightweight equipment and standardized protocols [46], the KEMA model demonstrates high replicability and scalability, making it ideal for grassroots rehabilitation training and practice in underserved regions [47], yet it requires further third-party clinical validation and international comparison with methods such as McKenzie and Schroth to establish broader credibility.

4. Discussion

4.1. The rehabilitation-prevention-equity transformation in healthcare systems

Physical therapy has undergone a functional restructuring within healthcare systems, transitioning from a focus on disease management to health promotion and support [29,35,36]. As a structural health resource, physical therapy has not only enhanced the accessibility of rehabilitation services but also advanced the proactive positioning of preventive healthcare frameworks. The low utilization of community-based rehabilitation (CBR) services within South Korea's PHC system further highlights the gap between "structural accessibility" and "cognitive accessibility," indicating that institutional embedding of services does not necessarily translate into actual usage. Rehabilitation services can effectively fulfill their dual roles in prevention and equity only when public awareness, service convenience, and cultural trust mechanisms are adequately aligned. This suggests that policymakers should concurrently emphasize "soft embedding" mechanisms—such as health education, service promotion, and interagency collaboration—in promoting integrated rehabilitation-prevention systems.

The South Korean experience demonstrates that the legal institutionalization of physical therapy policies constitutes a critical determinant of service sustainability [20,21,48,49]. Future reforms should prioritize legal frameworks that standardize transnational rehabilitation collaboration while leveraging regulatory technology (RegTech) to optimize resource allocation efficiency. Notably, the imperative of legal pluralism necessitates policy architectures that systematically address rural-urban disparities through legally mandated equity clauses, thereby preventing systemic loopholes from exacerbating service inequities and ensuring territorially adaptive governance implementation.

Discussions regarding the transition of rehabilitation services toward preventive healthcare should not only focus on shifting content and expanding objectives but also emphasize the restructuring of organizational models. Martin et al. [40] noted that compared with traditional individual rehabilitation programs, group exercise interventions demonstrate greater economic feasibility and social value. By enhancing peer interaction and structured activities, group interventions stimulate active participation and improve adherence among older adults, forming therapist-centered intensive service models that exhibit favorable cost-effectiveness in resource-constrained grassroots systems [32,50–52]. Additionally, this "group-based" grassroots rehabilitation approach provides a practical reference for optimizing therapist resource allocation.

Government-led physical activity programs for older adults serve not merely as

health promotion tools but also reflect a national commitment to addressing population aging as a public responsibility. Valdés-Badilla et al. [23], in their systematic analysis of five long-term intervention projects, pointed out that despite diverse implementations across countries, common characteristics included low cost, broad coverage, and the necessity for scientific evaluation.

Valdés-Badilla et al. [23], in their systematic analysis of five long-term intervention projects, pointed out that despite diverse implementations across countries, common characteristics included low cost, broad coverage, and the necessity for scientific evaluation. Some programs exhibited limited effectiveness due to inadequate continuous evaluation resources and a lack of involvement from rehabilitation professionals, whereas programs with structured training led by professional teams were more successful in achieving improvements in activities of daily living (ADL) and quality of life.

This evidence indicates that grassroots rehabilitation system policy design should not only promote the early deployment of physical therapy services but also establish interdepartmental performance collaboration mechanisms to avoid administrative shortsightedness characterized by "prioritizing implementation over evaluation" [53–55]. Amid tightening healthcare resources and rapid social structural transformations, physical therapy has emerged as a key connector integrating equity, efficiency, and human-centered care.

4.2. Institutional integration of physical therapy in South Korea's low-carbon healthcare strategy

South Korea's low-carbon healthcare transformation is not limited to optimizing energy structures or innovating waste management technologies. It has also achieved synergy between policy goals and health benefits by institutionalizing physical therapy as a core pillar of its environmentally sustainable healthcare system. According to the 2050 Carbon Neutral Strategy of the Republic of Korea towards a Sustainable and Green Society, physical therapy is explicitly listed as a "priority area for low-carbon interventions." Its policy tools include mandatory promotion of tele-rehabilitation, development of green rehabilitation equipment procurement standards, and carbon-neutral certification for community rehabilitation centers.

These practices show that South Korea has elevated physical therapy from a technical level to a strategic resource through threefold mechanisms: legislative mandates, market incentives, and performance accountability. Its experience further confirms that the preventive, non-invasive, and digital characteristics of physical therapy can systematically reduce the healthcare system's resource dependence. For example, group exercise interventions reduce medication use, and intelligent devices replace high-energy imaging examinations, curbing pollution at its source. However, current challenges mainly involve implementation gaps between urban and rural areas. In rural regions, weak network infrastructure leads to tele-rehabilitation utilization less than one-third of that in urban areas. Additionally, small and medium-sized private clinics struggle to meet green procurement requirements due to cost pressures. Future efforts should strengthen the inclusivity and accessibility of low-carbon healthcare policies through regional carbon offset funds and public-private partnerships (PPP).

5. Conclusions and policy recommendations

The evolution of South Korea's physical therapy system provides a valuable case study for understanding the developmental trajectory of rehabilitation medicine within aging societies and transitioning healthcare systems. Physical therapy not only improves physical functioning and psychological well-being among older adults, enhancing their overall quality of life, but also reduces caregiving burdens on younger family members, alleviates intergenerational stress, and significantly contributes to social harmony. It demonstrates unique institutional value in promoting health equity, enhancing system resilience, and integrating primary healthcare services.

The professional advancement of South Korea's physical therapy system has effectively slowed functional decline among the elderly and enhanced the overall responsiveness of the healthcare system. Strengthening rehabilitation services in fall prevention, functional maintenance, and long-term care has facilitated a community-centered, integrated health management model.

The Korean experience illustrates that a mature rehabilitation system and enhanced professional standards in physical therapy not only improve health outcomes but also significantly reduce caregiving and fiscal pressures associated with aging societies. Policy instruments such as regional integrated care, community rehabilitation support centers, and digital rehabilitation platforms collectively create a rehabilitation ecosystem characterized by equity, accessibility, and continuity. For other countries undergoing population aging, South Korea's physical therapy experience provides valuable insights—particularly the integration of physical therapy as a "systemic regulator" into policy frameworks, enhancing not only individual health capacities but also societal harmony and resilience.

Based on the findings of this study, the following policy recommendations are proposed:

1) Systematically integrate physical therapy into national strategies for healthy aging and chronic disease management as a core intervention resource for promoting population-wide health and well-being;
2) To operationalize legal mandates for community-based rehabilitation, a multi-layered compliance system is recommended—combining fiscal incentives, performance-linked funding, and local government accountability frameworks. The legal codification of community-based rehabilitation mandates must be reinforced through fiscal incentive mechanisms that align with compliance frameworks, thereby systematically expanding both the service coverage and functional diversification of rehabilitation provisions to address spatially heterogeneous health demands;
3) Promote balanced urban-rural allocation of rehabilitation resources, prioritizing development in underserved regions, and explore integrated applications of tele-rehabilitation and digital platforms;
4) Develop interdisciplinary education systems in rehabilitation and law, enhancing professionals' understanding of due process and rights-based principles. Integrate kinesiology, social work, and intelligent technologies to strengthen practitioners' capacity to address complex health challenges through legal, technological, and community-driven approaches;

5) Implement stakeholder-inclusive monitoring frameworks to incorporate feedback from physical therapists, older adults, and family caregivers. Participatory policy design increases program adherence, cultural relevance, and service legitimacy.
6) Promote digital rehabilitation platforms and remote services to reduce paper records and patient transportation requirements, and monitor resource utilization efficiency through smart devices.

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