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The Current State and Development Pathways of Traditional Chinese Medicine Apprenticeship Education

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Abstract: As a traditional model for inheriting Chinese medicine, apprenticeship education has evolved over millennia into a distinctive talent cultivation system. In the new era characterized by upholding tradition while pursuing innovation, apprenticeship education serves not only as the core vehicle for sustaining Chinese medical scholarship but also as the key support for resolving contemporary challenges in cultivating TCM professionals. This paper traces the historical evolution and policy context of apprenticeship education, analyzes its current development status and underlying contradictions, and systematically elucidates its irreplaceable value in dimensions such as academic inheritance, critical thinking cultivation, and cultural continuity. By integrating technological innovation and policy guidance, it outlines development pathways to provide practical references for constructing a modernized TCM education system.

Keywords: Traditional Chinese medicine; Apprenticeship education; Necessity; Development pathways

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1. Introduction

Apprenticeship education in traditional Chinese medicine (TCM) represents a traditional educational model emphasizing direct transmission between master and apprentice and personalized learning. Under this approach, students deeply study and master their master's skills and knowledge through long-term mentorship and clinical practice. Master-apprentice education prioritizes experiential transmission through oral instruction and heart-to-heart guidance. Under the mentor's supervision, students gradually master relevant skills through observation, imitation, and practice. Its personalized teaching approach allows mentors to flexibly adjust methods and content based on students' individual traits and learning progress, ensuring maximum absorption and comprehension of knowledge. Apprenticeship education constitutes a protracted learning journey, typically requiring extended periods of study under a master. During this time, students continuously practice and accumulate experience under their mentor's guidance to refine their skills. The cultivation of TCM professionals

emphasizes not only the transmission of specialized knowledge but also the nurturing of humanistic spirit and cultural literacy. Within this educational process, the development of both technical proficiency and ethical character holds equal importance, rendering apprenticeship education both a talent cultivation model and a cultural transmission mechanism [1].

2. Historical origins and policy context of TCM apprenticeship education

The evolution of TCM apprenticeship education has consistently resonated with the rise and fall of the TCM profession, forming distinctive transmission models across different historical periods. Ultimately, driven by policy initiatives, it has achieved an organic integration of tradition and modernity.

Traditional Chinese medicine transmission has always centered on the master-apprentice relationship, forming the classic model of "oral transmission and heart-to-heart instruction, shadowing the master in clinical practice." From Zhang Zhongjing's "learning-adopting" transmission practice in the Han Dynasty, to the Imperial Medical Academy incorporating apprenticeship into the official system during the Tang and Song Dynasties, to Ming and Qing physicians establishing school lineages through classical commentary [2], apprenticeship education has consistently served as the core mechanism sustaining the development of traditional Chinese medicine. This model emphasizes the emotional bond and cognitive alignment between master and apprentice. Through clinical practice, it transmits theoretical essence, experiential wisdom, and medical ethics, ensuring the continuity of core principles like "differentiating syndromes to administer treatment" and "tailoring approaches to the individual." This has nurtured countless medical masters, serving as a living vessel for the academic transmission of TCM. After the founding of the People's Republic of China, apprenticeship education gradually transitioned from spontaneous grassroots practices to government-led standardized development. In 1956, the Ministry of Health issued the "Instructions on Promoting the Apprenticeship System in Traditional Chinese Medicine," marking the first state-led initiative to scale up apprenticeship practices. This effort supplied a significant number of practitioners to address shortages in healthcare services. Following the reform and opening-up, apprenticeship education was integrated into the mainstream TCM education system. The seven batches of national projects for inheriting the academic experience of senior TCM experts, implemented since 1990, have cumulatively selected over 5,000 mentors and trained more than 9,000 successors [3]. The 2017 Law on Traditional Chinese Medicine explicitly incorporated apprenticeship education into legal safeguards. The 2023 Measures for the Administration of Apprenticeship Education for TCM Professionals marked the entry of apprenticeship education into a new phase of institutionalized and standardized development [1].

In recent years, the nation has progressively established a talent cultivation system featuring "three organically interconnected stages—institutional education, postgraduate education, and continuing education—with apprenticeship education running throughout." From the 2012 Undergraduate Medical Education Standards—Traditional Chinese Medicine Major (Interim) proposing to explore apprenticeship education methods, to the 2020 Implementation Opinions on Deepening Medical-Education Synergy to Further Promote TCM Education Reform and High-Quality Development advancing the "early apprenticeship, early clinical exposure" model, policies have consistently reinforced the core position of apprenticeship education. This positioning respects the traditional patterns of TCM talent development while adapting to the demands of modern medical education, laying an institutional foundation for the innovative development of apprenticeship education.

3. The necessity of apprenticeship education in traditional Chinese medicine

At this critical juncture for the inheritance and innovation of TCM, the necessity of apprenticeship education manifests across multiple dimensions—academic, talent development, heritage preservation, and cultural continuity—serving as the core pillar for fulfilling the mission of "preserving the essence while pursuing innovation."

(1) The apprenticeship system in traditional Chinese medicine serves as an irreplaceable vehicle for transmitting academic expertise

The essence of TCM resides not only in classical texts but also in the clinical experience and critical wisdom of senior practitioners. Such knowledge often exhibits "individualized" and "contextual" characteristics—such as the precise interpretation of pulse patterns ("floating, deep, slow, rapid") or the flexible adaptation of compound formulas—which cannot be conveyed through standardized textbooks. Through "clinical shadowing, case analysis, and mentor-apprentice discussions," apprenticeship education transforms this tacit knowledge into practical competence for trainees. The National Program for Inheriting the Academic Experience of Veteran TCM Experts demonstrates that apprenticeship education effectively preserves endangered academic traditions, safeguarding the continuity of TCM scholarship [4].

(2) Traditional Chinese medicine apprenticeship education is the key pathway for cultivating TCM thinking

TCM thinking constitutes the essence of traditional Chinese medicine, emphasizing the unity of holistic concepts and pattern differentiation and treatment. Institutional education focuses on systematic theoretical transmission but often leads to an overemphasis on theory at the expense of practice, hindering students' development of mature clinical reasoning. Apprenticeship education employs an "early mentorship, early clinical exposure" model, enabling students to grasp the application logic of TCM theory within authentic diagnostic and therapeutic settings. Educational reform practices at TCM universities demonstrate that through long-term apprenticeship, students progressively develop diagnostic thinking based on "observation, auscultation, inquiry, and palpation" and therapeutic approaches centered on "formula-syndrome correspondence." This method of cultivating thinking aligns with the developmental patterns of TCM practitioners and cannot be replaced by institutional education [5]. Among the National Masters of Traditional Chinese Medicine, 68 (75.6%) underwent apprenticeship training, 80 (88.9%) received institutional education, and 58 (64.4%) experienced both approaches [4], underscoring the significance of apprenticeship in cultivating high-level TCM talent. Through the cyclical process of "reading texts, learning from mentors, and clinical practice," apprenticeship education cultivates TCM thinking in authentic clinical settings, enhancing students' ability to solve complex problems.

(3) Master-apprentice education serves as a vital pathway to address the crisis in TCM inheritance

Facing challenges such as the dilution of TCM's distinctive strengths and the loss of academic expertise, apprenticeship education achieves the salvage preservation of valuable academic resources through the inheritance of renowned senior TCM practitioners' academic experience and the transmission of academic schools. The national initiative for inheriting the academic experience of senior TCM experts demonstrates that apprenticeship education can cultivate TCM backbone talents with solid theoretical foundations and strong clinical capabilities, effectively alleviating the shortage of successors. China has a large pool of practitioners who learned TCM through family traditions or apprenticeships. The apprenticeship education policy provides a professional development pathway for these individuals.

Since the implementation of the Interim Measures for the Assessment and Registration of TCM Practitioners with Specialized Skills in 2017 [6], tens of thousands of TCM practitioners trained through apprenticeship have obtained practice qualifications. This has strengthened grassroots TCM service capabilities and alleviated the shortage of TCM talent in rural and remote areas.

(4) The apprenticeship system in traditional Chinese medicine serves as a vital link in preserving the heritage of Chinese medicine

TCM culture constitutes a vital component of China's outstanding traditional heritage. Its transmission involves not only knowledge transfer but also the cultivation of shared values. Beyond imparting medical techniques, apprenticeship education conveys the professional ethos of "great physicians embodying integrity and dedication" and the philosophical concept of "unity between heaven and humanity" through the master's words and deeds. The humanistic care demonstrated during consultations, the meticulous approach to prescribing, and the empathy shown toward patients subtly shape the ethical cultivation of apprentices, achieving the simultaneous transmission of both "medical skills" and "medical ethics." This cultural inheritance helps practitioners build cultural confidence, laying the ideological foundation for the internationalization of TCM.

(5) Master-disciple education is the foundation for innovation in traditional Chinese medicine

Preserving tradition is the prerequisite for innovation. The classical theories and clinical experience transmitted through apprenticeship education serve as the vital source for TCM innovation. Tu Youyou's team drew inspiration from the Elbow-Room Emergency Prescriptions to develop artemisinin, exemplifying the inheritance and transformation of traditional knowledge. Apprenticeship education provides the theoretical foundation for innovation by systematically transmitting traditional wisdom. Simultaneously, its "tailored instruction" approach stimulates students' innovative potential, driving the integration of traditional theories with modern technology. In the era of artificial intelligence, practitioners versed in traditional experience are better equipped to precisely navigate the innovation pathways toward digitalization and intelligent transformation of TCM, thereby achieving its creative adaptation.

4. Current status and core challenges in traditional Chinese medicine apprenticeship education

Currently, under policy support, TCM apprenticeship education has made significant progress. However, in practice, it still faces challenges in aligning traditional models with modern demands, presenting a landscape of both opportunities and challenges. At the national level, a multi-tiered support system for apprenticeship education has been established. In the National Program for Inheriting the Academic Experience of Veteran TCM Experts, 24 of the first six cohorts of inheritors were honored as National Famous TCM Practitioners, 22 became Qihuang Scholars, 219 served as mentors for the program, and over 220 were selected for the Young Elite Talent Program. Concurrently, medical institutions at all levels have established studios to inherit the expertise of renowned veteran TCM practitioners. By 2022, over 2,000 such studios had been established nationwide, serving as vital platforms for apprenticeship education [2]. Among the National Masters of Traditional Chinese Medicine, 84 have served as mentors, fostering a virtuous cycle where distinguished teachers guide exceptional disciples [4]. Currently, TCM education has formed a dual structure where apprenticeship education and institutional education complement each other. Institutional education

excels in systematization and standardization, addressing the issue of large-scale talent cultivation, but it has shortcomings in shaping TCM thinking and transmitting experience. Apprenticeship education excels in personalized training and enhancing practical skills, but it faces challenges in insufficient standardization. In recent years, the integrated "institutional + apprenticeship" model has gained traction. By incorporating classical texts into academic curricula and introducing apprenticeship guidance during clinical practice, this approach leverages complementary strengths and has become the mainstream direction for talent development. However, mechanisms for deep integration between the two systems still require refinement.

Despite the notable achievements of TCM apprenticeship education, several prominent issues persist. On the one hand, high-quality educational resources are unevenly distributed. The number of renowned senior TCM practitioners is limited and geographically concentrated, resulting in fewer apprenticeship opportunities for grassroots TCM personnel. Some mentors lack modern teaching methods and digital skills, making it difficult to meet the demands of large-scale training. Furthermore, there is a generational gap in inheritors of ethnic medical traditions like Tibetan and Miao medicine, leading to inconsistent educational quality. On the other hand, the oversight system for apprenticeship education remains imperfect, with some apprenticeships becoming mere formalities. Approximately 40% of apprenticeship programs lack mechanisms for verifying learning logs, leading to instances of "nominal apprenticeship" (according to 2023 spot-check data from the National Administration of Traditional Chinese Medicine). Furthermore, the integration between apprenticeship education and institutional education is insufficient, with no organic connection yet established in areas such as curriculum design and assessment evaluation. Surveys indicate that some TCM students exhibit "insufficient confidence in TCM, lack of classical knowledge, and weak clinical skills," reflecting the need for educational model optimization [1].

From a societal perspective, the value of apprenticeship education remains underappreciated. Although the Law on Traditional Chinese Medicine provides a practice pathway for apprenticeship graduates, their career advancement opportunities remain constrained. They face disadvantages in professional title promotions and academic evaluations, and some provinces still prohibit apprenticeship graduates from performing high-risk techniques like acupuncture. This situation dampens the enthusiasm of talented individuals to choose the apprenticeship path and hinders the sustainable development of apprenticeship education.

Regarding training models, the primary approach remains one-on-one oral transmission, which suffers from drawbacks such as lengthy training cycles and limited coverage, making it difficult to meet the talent gap in the development of TCM. Integration between traditional experience and modern medicine/digital technology remains inadequate, with some inherited content lagging in updates. Overreliance on test scores during apprenticeship hinders the cultivation of pure TCM pattern differentiation thinking [5]. Moreover, the individualized diagnostic approach of TCM fundamentally differs from the standardized requirements of evidence-based medicine, reflecting the challenge of balancing "flexibility in pattern differentiation" with "standardization in diagnosis and treatment" within apprenticeship education.

The evaluation system lacks sufficient quantitative assessment of apprenticeship outcomes, hindering precise quality control. The final apprenticeship assessment emphasizes clinical practice, diverging from the theoretical standardization required for licensed physician examinations [1]. This discrepancy has contributed to persistently low pass rates in TCM apprenticeship assessments over the past two decades. Moreover, in the current assessment, medical case analysis accounts for over 60% of the evaluation, with insufficient emphasis on assessing TCM reasoning and innovation capabilities. The figures for approved registrations and successful assessments across provincial-level regions nationwide, along with the pass rates, indicate a high number of

registrants but a relatively small number of successful candidates, resulting in a low pass rate. Statistics indicate an average national pass rate of 16.60% from 2018 to 2023 [6], see **Figure 1**.

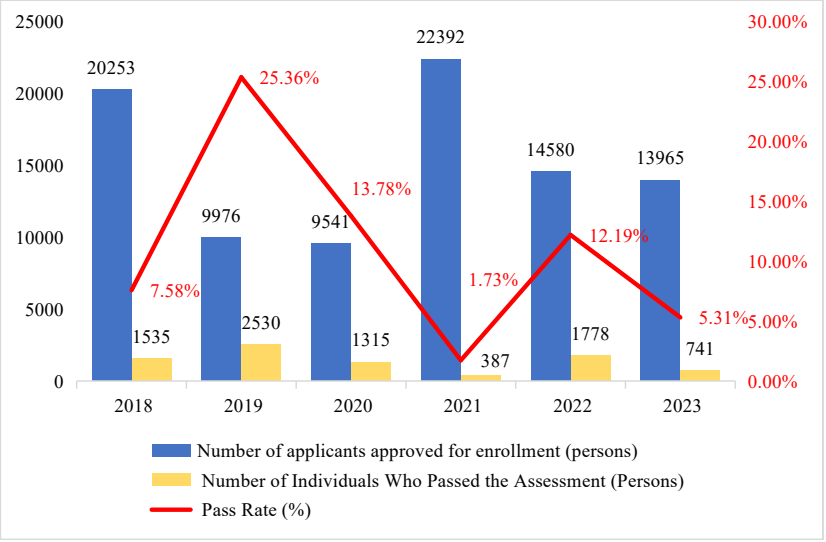

Figure 1. Number of applicants approved and examinees passing the assessment in provincial-level regions nationwide

5. Development pathways for TCM apprenticeship education

Guided by policy direction and technological innovation, TCM apprenticeship education should evolve toward standardization, integration, digitalization [7], and internationalization, gradually establishing an educational system aligned with modern TCM practice.

(1) Establishing a more standardized institutional framework

With the implementation of the Traditional Chinese Medicine Law and the Administrative Measures for Apprenticeship Education of TCM Professionals, core aspects such as instructor selection, curriculum design, and assessment criteria will be further clarified. Future efforts should establish a unified national quality management system for apprenticeship education, refine the policy mechanism of "national coordination and local implementation," and enhance standardization through measures such as detailed instructor training, optimized curriculum content, and improved incentive mechanisms—while preserving the traditional strength of "teaching according to individual aptitude." Concrete implementation rules linking apprenticeship experience to professional title evaluation and practice scope should be put into effect [8].

(2) Deepening integration with modern education

Mentorship education must achieve tighter integration across three stages: institutional education, postgraduate education, and continuing education. Within institutional education, the proportion of classical TCM courses will increase, and the Classical TCM Competency Level Examination will promote the integration of classical teaching with mentorship practice [9]. In postgraduate education, mentorship guidance must be fully incorporated into standardized training to achieve seamless integration of theory and practice [10]. Continuing education can offer specialized apprenticeship programs for grassroots practitioners to enhance their service capabilities. This "three-stage integration" model will establish a comprehensive inheritance system.

(3) Enhancing educational quality

To address the issue of inconsistent quality in apprenticeship education, a more scientific quality evaluation system should be established. This includes standardizing the management of the apprenticeship learning process, establishing learning logs and assessment records; refining the standards for completion assessments, potentially introducing clinical reasoning assessment scales with a focus on evaluating clinical competence [10]; and strengthening instructor training to enhance teaching capabilities. The "Apprenticeship Education Quality Monitoring Platform" developed by the China Academy of Chinese Medical Sciences enables dynamic monitoring and evaluation of apprenticeship learning processes, providing technical support for quality improvement. Implementation and oversight now become critical steps [3].

(4) Advancing AI-assisted diagnosis and treatment

Technologies like artificial intelligence and big data offer solutions to overcome bottlenecks in apprenticeship education. A three-tiered digital inheritance platform ("national-local-institutional") could be established to integrate resources such as classical texts, case studies, and lectures by renowned practitioners. Remote consultations and online Q&A sessions would overcome spatial and temporal constraints. For instance, institutions like the China Academy of Chinese Medical Sciences have begun developing a "Digital Twin System for Renowned TCM Practitioners." Through medical case data mining and knowledge graph technology, the digital inheritance of renowned physicians' expertise can be achieved. AI technology will be applied to assist in pattern differentiation teaching, enhancing learning outcomes by simulating clinical scenarios. Knowledge graph technology enables the systematic organization of TCM experience, driving its evolution from "individualized" to "computable"—preserving traditional essence while improving inheritance efficiency [11,12].

(5) Fostering the formation of an international development framework

As the internationalization of TCM accelerates, apprenticeship education is gradually expanding globally. By establishing overseas inheritance studios and launching international apprenticeship programs, TCM theories and practical experience are being disseminated worldwide. Simultaneously, this approach cultivates apprentices with international perspectives. Through a "localized faculty + international curriculum" model, practitioners tailored to local needs are trained. This not only advances the global dissemination of TCM but also fosters mutual learning between TCM and other traditional medical systems worldwide, contributing to the construction of a global health community [9].

6. Conclusion

Having undergone millennia of transmission and modern transformation, TCM apprenticeship education has become a core component of the TCM talent cultivation system. Its indispensability is evident in its irreplaceable value for academic inheritance, critical thinking cultivation, cultural continuity, and innovative development. In the new era, the development of TCM apprenticeship education should further strengthen its strategic position, improve institutional safeguards, deepen integration with modern education, and enhance educational quality. Additionally, leveraging artificial intelligence technology to overcome developmental challenges will fully unleash its potential for inheritance and innovation. Only in this way can we cultivate more TCM professionals who combine traditional wisdom with modern literacy, injecting inexhaustible momentum into the high-quality development of TCM. This will enable this treasure of Chinese medicine to flourish with renewed vitality in the new era.

Disclosure statement

The authors declare no conflict of interest.

References

[1] Han BW, Chang XH, 2025, Exploring Apprenticeship Education in Traditional Chinese Medicine. Journal of Traditional Chinese Medicine Management, 33(14): 220–222.

[2] Zhang L, Ren HL, Duan YS, 2024, Reflection and Remediation: Exploring the Apprenticeship Education of Traditional Chinese Medicine Practitioners in the New Era. Journal of Chinese Medicine Literature, 42(01): 73–80 + 95.

[3] Yu L, Wen X, 2024, Policy Text Analysis of Traditional Chinese Medicine Apprenticeship Education in the New Era. Journal of Nanjing University of Chinese Medicine (Social Sciences Edition), 25(04): 257–264.

[4] Yang J, Zhang H, Pei ZY, et al., 2021, A Study on the Influencing Factors of the Development of National Masters of Traditional Chinese Medicine Based on Growth History Metric Analysis. Science, Education and Culture Forum, (7): 107–109, 148.

[5] Shu GF, 2024, Research on the Pathway to Build a Goose-Formation Pattern for Developing Traditional Chinese Medicine Talent with Shandong Characteristics Through Apprenticeship-Led Inheritance and Innovation. Modern Distance Education of Traditional Chinese Medicine in China, 22(16): 198–201.

[6] Mai WJ, Jiang JW, Wu MH, et al., 2024, Statistical Analysis Report on the National Qualification Assessment for TCM Practitioners with Specialized Skills. Chinese Journal of Sanatorium Medicine, 33(07): 54–59.

[7] Gao Y, Liu Y, Mao HJ, et al., 2024, Exploring Traditional Chinese Medicine Talent Cultivation Models Based on Apprenticeship Education. Hunan Journal of Traditional Chinese Medicine, 40(03): 108–111.

[8] Cheng XE, Luo Y, He L, et al., 2024, Research on the "Three Integrations" Talent Education Model for Traditional Chinese Medicine Based on a Digital Smart Education System Featuring Internet Plus and TCM Characteristics. Chinese Medicine Education, 43(06): 40–48.

[9] Zhi DM, Li T, Xiang X, et al., 2025, Realistic Demands, Practical Challenges, and Action Pathways for High-Quality Doctoral Education in Acupuncture and Tuina in the New Era. Chinese Acupuncture & Moxibustion, 1–8.

[10] Ma X, Fu YL, Lu SK, 2024, Insights from North China University of Traditional Chinese Medicine on Contemporary Apprenticeship Education for TCM Practitioners. Modern Distance Education in Chinese Medicine, 22(05): 169–171.

[11] Wan XW, Huang R, Ma LR, et al., 2025, Research on China's Traditional Chinese Medicine Policies and Development Status. Chinese General Practice, 28(10): 1161–1169 + 1192.

[12] Zeng F, 2025, Digital Transformation Practices and Application Challenges in Traditional Chinese Medicine Higher Education. Chinese Medicine Education, 1–7.