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Exploring the Industry-Education Integration Education Model and Practical Pathways for the Health Services and Management Major

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Abstract: Against the backdrop of the Healthy China strategy and the deep advancement of the New Medical Science initiative, the comprehensive health industry is experiencing rapid development, leading to a continuous increase in demand for applied and interdisciplinary talents in Health Services and Management. Industry-education integration serves as the core pathway to bridge the gap between university talent cultivation and industry job requirements, thereby enhancing the quality of professional education. This paper takes the Health Services and Management major as its research object, analyzes the practical challenges currently existing in its industry-education integration, such as superficial school-enterprise cooperation, curriculum systems disconnected from the industry, an incomplete practical education system, and insufficient industrial experience among faculty. It constructs a new "industry-linked, school-enterprise collaborative, job-course integrated, learning-application united" industry-education integration education model. Furthermore, it explores specific practical pathways from four dimensions: curriculum system reconstruction, practical platform development, faculty team building, and improvement of school-enterprise collaboration mechanisms, while also proposing corresponding safeguard measures. This research aims to provide a reference for optimizing the talent cultivation system for the Health Services and Management major, enhancing students' job competence, and improving the quality and efficiency of talent supply for the comprehensive health industry.

Keywords: Health Services and Management; Industry-Education Integration; Education Model; Talent Cultivation; Practical Pathways

1. Introduction

The "Healthy China 2030" Planning Outline explicitly calls for improving the health service system and expanding the scale of the health industry to build a comprehensive, full-life-cycle health service system for the people [1]. Amidst increasing population aging, a high prevalence of chronic diseases, and diversifying resident health needs, China's comprehensive health industry has entered a critical phase of transformation and upgrading. Primary healthcare institutions, elderly care institutions, health management enterprises, community health service centers, and other entities are experiencing continuously expanding demand for specialized health service and management professionals. As an emerging applied major aligned with the comprehensive health industry, Health Services and Management aims to cultivate high-quality applied talents possessing capabilities in health monitoring, health assessment, health intervention, and overall health management coordination. The quality of talent cultivation directly impacts the construction level of the primary health service system.

The New Medical Science initiative emphasizes the deep integration of medical education with industrial development and societal needs, moving away from traditional theory-heavy, practice-light education models [2]. Industry-education integration and school-enterprise cooperation are the core mechanisms for applied undergraduate

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programs to fulfill the fundamental task of fostering virtue through education and to achieve precise alignment between talent cultivation and industry demands. Currently, most university programs in Health Services and Management have a relatively short history and limited educational experience. Common issues in the talent cultivation process include formalistic school-enterprise cooperation, teaching content lagging behind industry developments, and weak practical teaching. These issues lead to low job fit and insufficient practical skills among graduates, making it difficult to meet the high-quality talent demands of the comprehensive health industry's high-quality development [3]. Therefore, this paper, grounded in the realities of program delivery, explores an industry-education integration education model suitable for the Health Services and Management major, constructing feasible and scalable practical pathways to empower teaching reform and talent cultivation quality enhancement.

2. Current Status and Existing Problems in Industry-Education Integration Education for the Health Services and Management Major

2.1. Superficial School-Enterprise Cooperation and Incomplete Collaborative Education Mechanisms

Currently, school-enterprise cooperation for most Health Services and Management programs remains at a superficial level, lacking deep and stable collaborative education mechanisms. Most cooperation is confined to basic activities such as student internships and enterprise visits, with enterprises lacking initiative and motivation to participate in talent cultivation. Enterprises are often marginalized in core educational processes like curriculum development, course content updates, and talent evaluation, with universities remaining the dominant unilateral decision-makers [4]. Furthermore, the lack of regular communication and coordination mechanisms between schools and enterprises prevents the formation of stable educational communities. Cooperation models suffer from fragmentation and short-termism, making it difficult to establish a long-term collaborative framework characterized by "co-construction, resource sharing, shared responsibility, and co-education of talents." This results in industry-education integration remaining largely symbolic and difficult to implement effectively.

2.2. Curriculum System Disconnected from Industrial Job Requirements, Low Integration of Courses and Jobs

Health Services and Management encompasses multidisciplinary knowledge including medicine, management, public health, and elderly care services, making it highly comprehensive and practical. Currently, the curriculum systems in some universities still adhere to traditional discipline-based structures, with a heavy emphasis on theoretical instruction. Practical courses urgently needed by the industry, such as health big data management, community chronic disease intervention, integrated medical-elderly care services, and health marketing, constitute an insufficient proportion of the curriculum [4]. Course content updates lag behind industrial development, with emerging industry knowledge like digital health management, smart elderly care, and health ethics being insufficiently integrated, while outdated content still dominates [5]. At the same time, curriculum instruction lacks alignment with professional job standards. Teaching modules are not designed around the core competency requirements for positions such as health managers, elderly care administrators, and community health service specialists. This mismatch between students' knowledge structures and job requirements necessitates secondary training by employers after graduation, resulting in low talent cultivation efficiency.

2.3. Incomplete Practical Education System and Weak Student Practical Skills

Practical teaching is a core component of talent cultivation for Health Services and Management and the primary vehicle for industry-education integration. The current practical education system has numerous shortcomings: First, on-campus training platform development lags behind, with some universities having outdated equipment

and limited functionality, lacking modern simulation facilities like smart health management training systems and chronic disease intervention simulation platforms necessary for student skill development. Second, off-campus training bases are underutilized; most cooperative enterprises only host students for graduation internships without participating in daily practical teaching, and phased training, cognitive internships, and project-based practical training are insufficient [3]. Third, practical teaching content is often monotonous, primarily consisting of basic operational drills, lacking project-based, comprehensive training in authentic job scenarios. This leaves students unable to master core job skills, weak in solving practical problems, and ultimately falling short of required job competence.

2.4. Lagging Development of Double-Qualified Faculty and Insufficient Industrial Practical Experience

Successful implementation of industry-education integration requires a double-qualified faculty team possessing both solid theoretical foundations and rich industry experience. Currently, the faculty for Health Services and Management programs faces significant shortcomings: most teachers are recent doctoral or master's graduates with strong theoretical teaching abilities but lacking frontline work experience in health management enterprises, medical institutions, or elderly care facilities. They have limited in-depth understanding of the latest industry job requirements, service models, and technological applications [6]. Meanwhile, there is a lack of systematic mechanisms for university teachers to engage in enterprise secondment or industry training, and industry experts are infrequently invited to campus for teaching or practical guidance. Classroom instruction often fails to incorporate authentic industry cases and practical scenarios, leading to a disconnect between teaching and industry realities, which severely constrains the quality of industry-education integration education.

3. Construction of an Innovative Industry-Education Integration Education Model for the Health Services and Management Major

Addressing the pain points of program delivery and the characteristics of industry talent demands, and grounded in the requirements of the Healthy China strategy and New Medical Science development, this paper constructs a four-in-one industry-education integration education model: "Industry-Oriented, School-Enterprise Collaborative, Job-Course Integrated, and Application-Empowered." This model aims to break down the barriers of traditional, singular, theory-focused education, achieving comprehensive alignment between talent cultivation and industrial development, job requirements, and professional competencies.

3.1. Industry-Oriented: Anchoring Cultivation Objectives to Industry Needs

Talent cultivation objectives are precisely defined based on the development trends of the comprehensive health industry and the requirements of job competencies. The focus is on five primary career tracks: community health services, chronic disease health management, integrated medical-elderly care, smart health operations, and health industry management. The required theoretical knowledge, practical skills, professional ethics, and innovation capabilities for students are clearly specified. Moving beyond the traditional "degree-focused, competency-neglected" philosophy, the program establishes an "applied, interdisciplinary, innovative" talent development orientation, ensuring that cultivation directions evolve in sync with industrial development, fundamentally addressing the supply-demand mismatch [7].

3.2. School-Enterprise Collaborative: Building a Two-Way Interactive Co-Education Platform

A collaborative educational community involving universities, health management enterprises, primary medical institutions, and elderly care organizations is established, with clearly defined responsibilities for each partner. Universities are responsible for theoretical instruction, foundational training, and the overall talent cultivation framework, while enterprises provide industry faculty, authentic job scenarios, practical projects, and

employment opportunities. Through deep cooperation models such as co-developing programs, co-designing curricula, co-building training bases, co-educating faculty, and co-evaluating talent, resource barriers between schools and enterprises are dismantled [8]. This enables two-way flow of educational and industrial resources, fostering a comprehensive, deep-seated, and normalized collaborative education framework.

3.3. Job-Course Integrated: Achieving Precise Alignment between Teaching and Jobs

Based on industry job standards and core work tasks, the curriculum system and teaching content are restructured to promote deep integration of courses, jobs, competitions, and certifications. Examination content for professional certifications like Health Manager, job-specific practical skills, and new industry technologies and methods are fully integrated into course instruction. Project-based, scenario-based, and case-based teaching methods are employed to align classroom instruction closely with actual job requirements [9]. Concurrently, industry competitions and innovation/entrepreneurship projects are incorporated throughout the education process, using competition to stimulate learning and practice, thereby comprehensively enhancing students' practical operational skills and professional competitiveness.

3.4. Application-Empowered: Improving the Comprehensive Practical Education System

A comprehensive "cognitive internship – specialized practical training – comprehensive practical training – on-the-job internship – employment and entrepreneurship" practical education chain is constructed, bridging the gap between theoretical learning and workplace application. Leveraging both on-campus training platforms and off-campus enterprise bases, phased, tiered practical teaching is implemented. This allows students to be exposed to industry scenarios from the beginning of their studies, progressively mastering foundational, specialized, and comprehensive job competencies, achieving learning by doing and doing to learn, and significantly enhancing job adaptability and employment competitiveness [4].

4. Practical Pathways for Industry-Education Integration Education in the Health Services and Management Major

4.1. Restructuring the Job-Course Integrated Curriculum System to Meet Industrial Talent Needs

Based on the core competency requirements of jobs in the comprehensive health industry, the talent cultivation plan is revised in collaboration with industry and enterprise experts to reconstruct a modular, precise curriculum system. First, the curriculum structure is optimized by compressing redundant theoretical courses and adding practical courses that address urgent industry needs, such as Smart Health Management, Precision Chronic Disease Intervention, Home-based Elderly Care Services, Health Data Analysis, and Health Industry Operations. This forms four major curriculum modules: "Basic Medicine, Core Health Management, Industry Practice, and Professional Competencies." Second, course content is updated to integrate new industry technologies, standards, and service models into textbooks and classrooms, incorporating real enterprise health management cases and service projects to replace outdated theoretical content [3]. Third, the integration of courses, jobs, competitions, and certifications is promoted by embedding the assessment content for professional certifications like Health Manager and Public Nutritionist into daily teaching, encouraging students to enhance learning through certification. This achieves an organic connection between academic education and professional capacity development, ensuring curriculum instruction precisely matches job requirements [9].

4.2. Building School-Enterprise Co-Built Training Platforms to Improve the Practical Education System

Leveraging industry-education integration resources, an integrated "on-campus training + off-campus practice" platform is constructed to solidify the foundation of practical education. For on-campus training, universities increase investment to build

specialized training facilities such as Smart Health Management Training Centers, Chronic Disease Intervention Simulation Laboratories, and Elderly Care Service Training Bases, equipped with modern facilities including health monitoring devices, health big data analysis systems, and smart elderly care equipment to meet daily practical training and project-based training needs [6]. For off-campus bases, high-quality community health service centers, premium elderly care institutions, and health management technology enterprises are selected to establish long-term, stable industry-education integration training bases. The cooperation connotation is deepened, upgrading bases from simple internship sites to integrated platforms for teaching, training, research, and employment [8]. Concurrently, the practical teaching process is optimized, with cognitive practice, specialized skills training, comprehensive project training, and on-the-job internships scheduled across semesters, allowing students to progressively accumulate job experience and comprehensively enhance practical abilities.

4.3. Creating a Two-Way Interactive Double-Qualified Faculty Team to Enhance Educational Competence

The double-qualified faculty is crucial for implementing industry-education integration and requires establishing a two-way faculty development mechanism of "university teachers going to the industry and industry experts coming to campus." On one hand, a system is established requiring professional teachers to regularly engage in secondment and practical learning at partner enterprises and medical institutions, participating in actual health management, elderly care services, and chronic disease intervention work. This allows them to accumulate practical industry experience, update their industry knowledge, and integrate frontline work cases and industry trends into classroom teaching [5]. On the other hand, senior industry technical experts, corporate executives, and clinical health management specialists are recruited as part-time adjunct faculty to participate in course instruction, practical guidance, talent plan revision, and student thesis defenses, compensating for the lack of industry experience among full-time faculty. Additionally, regular joint teaching and research activities, teaching skills training, and industry academic exchanges between school and enterprise faculty are conducted to comprehensively enhance the faculty's capacity for industry-education integration education [4].

4.4. Improving Long-Term School-Enterprise Collaboration Mechanisms to Ensure Integrated Education Implementation

Robust institutional mechanisms are the core guarantee for the sustainable development of industry-education integration. First, a regular school-enterprise communication mechanism is established, forming an industry-education integration working group composed of program leaders, core faculty, enterprise technical experts, and HR managers. This group holds regular meetings to align with industry needs, optimize the teaching system, and address issues in the educational process [3]. Second, school-enterprise co-construction and sharing mechanisms are improved, promoting resource sharing, collaborative talent development, and joint transformation of outcomes. Universities provide enterprises with talent pipelines, technical consulting, and employee training services, while enterprises offer universities training venues, faculty, and project resources, achieving mutual benefit and win-win outcomes. Finally, the talent evaluation mechanism is enhanced, moving beyond traditional single-dimensional theoretical assessments to establish a diversified evaluation system incorporating "university theoretical assessment + enterprise practical evaluation + professional competency testing." This comprehensively assesses students' theoretical knowledge, practical skills, and professional ethics, aligning with industry talent evaluation standards [7].

5. Safeguard Measures for Industry-Education Integration Education

To ensure the effective implementation and long-term operation of the industry-education integration education model, a comprehensive support system must be established across three dimensions: institutional, financial, and policy. At the

institutional level, universities should improve regulations governing industry-education integration teaching management, faculty assessment, training management, and school-enterprise cooperation. Integrating industry-education integration efforts into faculty performance evaluations and program quality assessment systems can stimulate faculty motivation to participate [4]. At the financial level, increased dedicated program funding should be allocated specifically for training platform construction, faculty development, school-enterprise cooperation projects, and curriculum development, providing the hardware support necessary for industry-education integration education [6]. At the policy level, universities should actively engage with local education, health, and industrial policies, leveraging local support policies for comprehensive health industry development to deepen school-enterprise cooperation, secure industry resources and policy support, and promote the normalized, standardized, and high-quality development of program-based industry-education integration education.

6. Conclusion

Industry-education integration is the core pathway for the Health Services and Management major to address the talent supply-demand mismatch, enhance educational quality, and align with the development of the comprehensive health industry. Current challenges in professional education, such as superficial school-enterprise cooperation, insufficient course-job integration, weak practical systems, and limited faculty capacity, constrain the high-quality development of the program [4]. The four-in-one education model constructed in this paper-"Industry-Oriented, School-EnterpriseCollaborative, Job-Course Integrated, and Application-Empowered"-effectively breaks down the barriers between education and industrial development and job requirements through four practical pathways: curriculum system reconstruction, training platform development, double-qualified faculty team building, and collaborative mechanism improvement. In the future, universities must continue to deepen industry-education integration teaching reforms, continuously optimize the education model, dynamically adapt to new business forms, new jobs, and new demands in the comprehensive health industry, and consistently enhance the precision and effectiveness of talent cultivation, thereby contributing more high-quality, applied professionals in Health Services and Management to the construction of a Healthy China.

References

1. The State Council of the People's Republic of China, "'Healthy China 2030' Planning Outline," *Gazette of the State Council of the People's Republic of China*, no. 32, pp. 5–20, 2016.
2. C. Wang and C. Ma, "Promoting the innovative development of medical education by taking the opportunity of New Medical Science construction," *China Higher Education*, no. 12, pp. 15–17, 2022.
3. Q. Lin, T. Zhang, and Y. Chen, "Discussion on the operational mechanism of practical teaching for Health Services and Management major under the background of industry-education integration," *China Medical Herald*, vol. 23, no. 9, pp. 102–107, 2026, doi: 10.20047/j.issn1673-7210.25092376.
4. F. Yang, Y. J. Zhang, M. Chang et al., "Construction and practice of the talent cultivation system for the Health Services and Management major," *Chinese Journal of Health Management*, vol. 18, no. 3, pp. 217–221, 2024.
5. N. He, J. P. Ren, L. X. Ren et al., "Investigation on the occupational job competency requirements of Health Services and Management professionals," *China Higher Medical Education*, no. 11, pp. 7–8+17, 2020.
6. S. Z. Bai, J. F. Tian, and F. Wu, "Current status and prospects of health management science in China," *Chinese Journal of Health Management*, vol. 14, no. 5, pp. 409–413, 2020.
7. L. Chen, X. Y. Wang, S. Leng et al., "Research on the CBE training model for interdisciplinary health management talents under the background of Healthy China," *Medical Education Research and Practice*, vol. 28, no. 2, pp. 235–238, 2020, doi: 10.13555/j.cnki.c.m.e.2020.02.015.
8. G. M. Tang, X. L. Miao, Q. Q. Wang et al., "Optimization strategies for the talent cultivation pathway of Health Services and Management based on the OBE concept," *Chinese Journal of Medical Education Research*, vol. 24, no. 8, pp. 1147–1152, 2025.
9. M. D. Liang and Y. X. Dou, "Innovation and practice of the talent training model for health elderly care services based on industry-education integration," *Keji Feng*, no. 7, pp. 85–87, 2026, doi: 10.19392/j.cnki.1671-7341.202607029.

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