

Research on Employment Challenges and Improvement Pathways for Graduate Students in Medical Universities

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Abstract: Against the backdrop of deepening the Healthy China strategy and the transformation and upgrading of the pharmaceutical industry, the enrolment scale of postgraduate students in medical universities continues to expand, with structural contradictions in their employment market becoming increasingly prominent. Drawing upon empirical observations of postgraduate employment in the Pearl River Delta region, this paper systematically analyses the multidimensional challenges within the current job market. Research indicates that the primary contradictions manifest as: geographical and occupational ‘mismatches between supply and demand’; ‘structural disconnects’ between graduates’ capabilities and industry requirements; and ‘cognitive gaps’ between career expectations and market realities. This paper proposes a systematic pathway for enhancing high-quality employment across three dimensions: optimising the industry ecosystem, reforming university training and services, and cultivating students’ core competencies. It aims to provide theoretical reference and practical guidance for medical universities to refine disciplinary structures, innovate educational models, and enhance employment service effectiveness.

Keywords: medical universities, graduate employment, structural contradictions, industry-education integration, career education

1. Introduction

As China's higher education pursues quality-driven development, medical graduate education continues to expand, supplying numerous high-level professionals. However, beneath quantitative growth, the job market undergoes profound structural adjustments. As a graduate advisor in the Pearl River Delta, frontline observations reveal: extended job searches for regional postgraduates, significant salary expectation gaps, a surge towards civil service recruitment, while critical technical positions face recruitment difficulties. This contrast reveals a deep structural imbalance between talent supply and industrial demand. Systematically examining employment challenges, analyzing underlying causes, and developing effective strategies holds significant value for promoting higher-quality employment and deepening pharmaceutical education reforms.

2. Current Situation Review: The Multidimensional Challenges of Graduate Employment in Medicine and Pharmacy

2.1 Coexisting "Employment Difficulties" and "Recruitment Challenges"

From a geographical perspective, graduates' choices are highly concentrated in core cities within economically developed regions such as the Pearl River Delta and coastal areas. Regarding employer type, competition for positions in large public hospitals, research institutes, the civil service system, and R&D roles at leading pharmaceutical companies has

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reached a fever pitch, transforming these sectors into crowded talent pools. However, regions such as Eastern, Western and Northern Guangdong, alongside small and medium-sized biotechnology enterprises, though ‘eagerly seeking talent’, generally face a lukewarm reception due to graduates’ concerns over career development platforms, research conditions and regional infrastructure.^[1] This regional and sectoral mismatch between supply and demand has resulted in two outcomes: on the one hand, a significant number of postgraduate students are trapped in repetitive, inefficient exam-oriented competition, squandering valuable job-seeking energy and time; on the other hand, persistent talent shortages in grassroots and emerging fields continue to constrain regional healthcare equity and industrial innovation vitality.

2.2 Mismatch Between Employment Readiness and Industry Demands

With the transformation of the pharmaceutical industry, employers’ demand for talent has shifted from a single academic qualification threshold to a comprehensive assessment of overall quality, practical innovation capabilities, and interdisciplinary skills. However, the postgraduate training models in some universities remain relatively outdated, exhibiting a tendency to “prioritize academic theory over practical application.” Graduate training remains heavily focused on completing advisor-led projects and publishing academic papers, with insufficient attention paid to the industrial translation pathways for research outcomes, the genuine needs of the pharmaceutical sector, and its cutting-edge developments. This results in some students possessing strong foundational research skills yet lacking the ability to translate laboratory discoveries into solutions for real-world industrial challenges. Their unclear understanding of the industry ecosystem leaves them facing a disconnect between their academic training and practical application during job searches, ultimately diminishing their core competitiveness.

2.3 Misalignment between Career Expectations and Market Reality

Graduate students long immersed in the academic “ivory tower” often develop cognitive biases about the job market. They tend to harbor unrealistically high expectations for positions with high social prestige, stable work environments, and generous compensation packages, viewing entry into top-tier hospitals, multinational pharmaceutical companies, or government institutions as their primary or even sole career goal. However, such positions are limited in number and fiercely competitive, frequently resulting in scenarios where thousands compete for a single opening. Faced with this gap between aspiration and reality, some graduates refuse to adjust their expectations, opting either voluntarily or involuntarily for “slow employment” or “delayed employment.” They hope to wait for more satisfactory opportunities by extending their graduation, pursuing further studies, or maintaining a long-term wait-and-see approach^[2]. This rigid job-seeking mindset not only intensifies individual job-hunting pressures but also leads to inefficient allocation of human resources across society.

3. Root Causes: An Analysis of the Origins of Employment Challenges

3.1 Macroeconomic Shifts and Industry Restructuring

Although the pharmaceutical industry has long been hailed as a “sunrise industry,” its job market remains significantly influenced by macroeconomic cycles and industrial policy adjustments. In recent years, driven by multiple factors, some pharmaceutical companies have faced transformation pressures, leading to a more cautious approach in overall hiring. Demand for positions in traditional marketing and basic production has contracted. Simultaneously, the industry is undergoing profound transformation, with robust demand for high-end roles in new drug R&D and clinical development. This dual trend of “overall pressure and structural divergence” is the fundamental cause behind the coexistence of oversupply in general positions and undersupply in high-end roles.

3.2 Mismatched Training Models and Lagging Career Services

Higher education institutions, as the primary entities for talent cultivation, present existing issues that constitute a key factor in the mismatch between supply and demand. Regarding training models, the academic evaluation system continues to prioritise publication output as the primary benchmark, resulting in a widespread bias towards academic training for postgraduate students. The integration of industry practice through ‘industry-education collaboration’ remains insufficiently deep, with low proportions of students participating in high-quality corporate internships. In terms of

employment services, career education for postgraduates suffers from issues of 'late commencement and superficial content'. Relevant guidance tends to concentrate on job-seeking skills training during graduation season, lacking systematic planning and guidance throughout the entire training process.^[3] Additionally, some counselors' professional backgrounds are disconnected from the pharmaceutical industry, making it difficult for them to provide in-depth consulting with industry insight. This results in employment guidance that is neither targeted nor effective.

3.3 Lack of Career Planning and Limited Job Selection Mindset

From the students' perspective, challenges stem from delayed career preparation and entrenched employment mindsets. Upon enrollment, many prioritize academic completion over proactive career exploration, lacking clear self-awareness and professional positioning. Regarding employment attitudes, an "elite complex" coexists with a "preference for stability." Aspirations for "first-tier cities, large organizations, and permanent positions" are widespread, while opportunities in private enterprises, grassroots roles, emerging fields, and central-western regions receive insufficient attention. This leads to overcrowding in certain paths and self-imposed narrowing of choices.

4. Breaking the Deadlock: A Systematic Approach to Promoting High-Quality Employment

4.1 Optimizing Ecosystems and Deepening Collaboration

Industry associations should actively establish industry-education dialogue platforms, regularly publishing authoritative talent demand and competency reports to provide forward-looking guidance for university cultivation and program design. Employers should reform talent evaluation mechanisms, establishing criteria oriented toward "capability and development potential" to overcome narrow focus on "academic credentials" or "prestigious universities." More crucially, enterprises should proactively open resources by deeply engaging in front-end talent development. This can be achieved through joint laboratories, internship bases, "corporate mentor programs," and converting real R&D challenges into graduate research projects, fostering a collaborative model where "admission equals recruitment, enrollment equals corporate integration."

4.2 Deepening Reforms to Build a Full-Cycle Support System

Higher education institutions must spearhead reforms. Firstly, innovate talent cultivation models by strengthening interdisciplinary collaboration with courses like 'Pharmacy + Artificial Intelligence' and 'Pharmacy + Data Science'. Reforming the tutor evaluation system is crucial, incorporating guidance on student career development and university-industry collaboration into assessment criteria, incentivizing tutors to become dual mentors for academic and professional growth.^[4] Secondly, establish a comprehensive, personalized career education system by creating individual career development portfolios. Integrate internal and external resources to provide one-stop services encompassing industry awareness, skills enhancement, and job-seeking guidance. Deliver targeted programs for students aspiring to grassroots work, entrepreneurship, or interdisciplinary fields.

4.3 Proactive Planning to Enhance Comprehensive Competitiveness

Graduate students themselves must embrace the mindset of being the primary responsible party for their career development. They should initiate career planning early, proactively exploring industries through internships, interviews, and research to clarify their professional direction. During their studies, students should strive to build a "T-shaped" knowledge and skill structure. While deepening expertise in their major, they should consciously cultivate interdisciplinary literacy, digital tool proficiency, and soft skills such as communication, collaboration, and project management. Additionally, students need to actively adjust their employment mindset, embrace a diverse and dynamic career development perspective, and align personal growth with the strategic needs of the national healthcare sector at the grassroots and cutting-edge levels. This approach enables them to realize their life value on a broader stage.

5. Conclusion

The employment predicament for medical university postgraduates fundamentally stems from structural contradiction between rapid industry transformation and adaptive reforms in talent cultivation. Resolving this cannot rely solely on last-minute employment drives; it necessitates systematic, collaborative reforms from the talent supply source. Universities must dismantle 'academic walls' and drive paradigm shifts through deep industry-education integration. Industry

enterprises must adopt a long-term perspective in opening resources, becoming co-creators in talent development; students should proactively seek change, enhancing transferable core competencies. Only by establishing a tripartite community linking industry, universities, and students—forming a dynamic equilibrium where demand drives supply and supply creates demand—can we fundamentally unblock employment pathways for high-level medical talent, laying a solid foundation for achieving 'Healthy China'.

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