

Enhancement of Primary Healthcare Personnel in the Perspective of Innovative Literacy Exploring the Practical Path of Innovative Employability

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Abstract: In the context of China's rapid advancement in new quality productive forces, primary healthcare services serve as the cornerstone of the "Healthy China" strategy, the improvement of its quality and efficiency is of great significance to meet the health needs of the people and promote the high-quality development of healthcare undertakings. The purpose of this paper is to explore how to enhance the innovation literacy of primary healthcare personnel to meet the needs and challenges of healthcare services in the new era. Focusing on the enhancement of innovative employability of primary healthcare workers under the perspective of innovative literacy, this paper discusses in depth the core value of innovative employability in the healthcare employment market, and analyzes the close connection between innovative literacy and primary healthcare workers, as well as the multiple challenges they are currently facing. Combined with the analysis of the current situation, it reveals the real problems faced by medical practitioners, the current situation of innovative employment, and the future needs and development trends of the industry, and based on this, it puts forward a multifaceted enhancement path as well as an outlook on the research and practice prospects for the enhancement of the innovative employment ability of primary care workers.

Keywords: Creative literacy; Primary care staff; Creative employability; Practice pathways

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1. Introduction

Innovative literacy refers to an individual's ability to respond and deal with new problems and situations, which not only includes creative thinking and problem-solving ability, but also involves the attitude and behaviour of proactively accepting change and adapting to it ^[1]. In the healthcare industry, innovation literacy means that medical personnel can cope with changes in medical technology and innovations in healthcare models, and provide quality healthcare services with creative thinking and flexible adaptability. In the context of the

new healthcare reform, the innovation literacy of primary healthcare workers has become a key element in the development of healthcare organizations ^[2]. With the in-depth implementation of the "Healthy China" strategy, it is particularly important to strengthen the construction of the primary health care service system, and to improve the innovation literacy of primary health care workers is an important part of it. The innovation literacy of primary healthcare workers is not only related to their personal career development, but also directly affects the quality and efficiency of the whole healthcare service.

However, primary care workers currently face many challenges in terms of innovation literacy. On the one hand, some primary care workers are influenced by traditional medical thinking and are relatively conservative in accepting and applying new technologies and methods. On the other hand, the education system is insufficient for the cultivation of innovation literacy, and primary healthcare workers lack training in innovative thinking during the learning process. In addition, insufficient resources and support are also important factors constraining the improvement of primary care workers' innovative literacy. This paper intends to address these issues, try to clarify the intrinsic connection between innovation, study in depth the practical application value of innovation literacy in primary healthcare work, transform it into specific practices to improve the quality and efficiency of healthcare services, and explore effective paths of cultivation and enhancement. It provides the necessary support and guidance for primary care workers to improve their innovative employment ability.

2. Creative literacy and medical employment

2.1. Innovation literacy is critical for healthcare practitioners

Innovation literacy provides a powerful impetus for all walks of life in the context of the rise of new quality productive forces. Innovation is not only the source of scientific and technological progress, driving the continuous emergence of new technologies, products and services, but also the new engine of economic development, fueling industrial upgrading and structural adjustment, and enhancing the competitiveness and sustainable development of China's overall economy. Therefore, strengthening the education and practice of innovation literacy has become an important issue for the development of various industries and the country.

Creative literacy is also of great importance in the medical profession. In the face of medical technology change and medical model creation, medical personnel need to have keen problem identification ability and forward-looking thinking, but also in the face of the complex and changing medical environment, still be able to provide quality medical services with creative thinking and flexible adaptability ^[3]. The enhancement of innovation literacy will help healthcare professionals to better adapt to the requirements of social development and technological progress, break through technical bottlenecks, and promote the improvement of healthcare service quality and the development of healthcare models.

2.2. Current situation of the work of primary health-care workers

Primary healthcare workers are the bridge between patients and the healthcare system, assuming the important responsibility of providing basic healthcare services, implementing health management programmes, and maintaining the health and well-being of the people. Their work is directly related to the improvement of accessibility, equity and quality of healthcare services, and is the most central part of building a healthy China ^[4]. The current healthcare industry is changing rapidly, and primary care workers are facing unprecedented challenges and opportunities.

Insufficient medical resources are the most prominent pressure facing primary health care at present. It is mainly reflected in the tension of human resources, shortage of medical equipment and insufficient financial investment. Because primary medical institutions are often located in remote or economically underdeveloped areas, it is difficult to attract and retain high-quality medical personnel, resulting in a relative lag in the level of medical technology ^[5]. At the same time, the lack of medical equipment and the lag in updating make it difficult to popularize some advanced diagnostic and treatment means at the grassroots level, which affects the quality and efficiency of primary healthcare services. In addition, the imbalance of financial distribution also limits the investment of primary healthcare organizations in infrastructure construction and staff training, which is also one of the important factors leading to the generally poor clinical skills and diagnosis and treatment level of primary healthcare workers ^[6]. This not only affects the treatment effect and recovery process of patients, but also reduces the trust and satisfaction of primary healthcare organizations among the people.

The complexity of the medical environment is also another major challenge that primary care workers have to face ^[7]. As the first line of the healthcare service system, primary healthcare organizations undertake the diagnosis and treatment of a large number of common and frequent diseases, and at the same time need to cope with the emergency treatment of patients with acute and critical illnesses. The diversity of patient groups, the wide range of disease types, and the complexity of the condition all put forward extremely high requirements on the professional ability and adaptability of primary healthcare workers. Especially in the face of public health emergencies, primary care workers need to respond quickly to protect the lives and health of the people.

Amidst the difficulties and many challenges, there are also infinite opportunities. The government's emphasis on and support for primary healthcare services is increasing, and a series of policies and measures have been introduced, such as the proposal of the Thousand Counties Project and other policies, all of which provide primary healthcare workers with more opportunities for development and resource protection, and stimulate the enthusiasm and innovation of primary healthcare talents ^[8]. In addition, the government and society have been paying increasing attention to the training and education of primary care talents. More training opportunities and learning resources as well as access to and application of advanced medical technology and equipment are provided. By strengthening the training efforts and policy support for primary healthcare talents, the professionalism and service capacity of primary healthcare workers will be continuously improved.

3. Analysis of the current situation of innovative employment of primary healthcare workers

3.1. Difficulties in improving the level of innovation literacy among primary care workers

Currently, primary healthcare workers are facing unprecedentedly many real-life problems on the way to improve their innovation literacy. Due to the heavy workload of medical work and limited resources, many primary healthcare workers find it difficult to spare enough time and energy to keep up with the pace of knowledge updating ^[9]. This not only leads to their lack of sufficient understanding and mastery in the face of new technologies and methods, making it difficult for them to adapt to the latest needs of medical development. This not only tests their professional ability and learning speed, but also puts higher requirements on their thinking and innovative practice. At the same time, innovative thinking, as an important part of innovative literacy, faces considerable challenges in its cultivation and development. Under the long-term traditional medical model, the way of thinking of medical practitioners tends to be more fixed and conservative, and they are used to operating in accordance with established processes and norms, lacking the courage and ability to step out of the traditional

framework and find ways to solve problems from a new perspective. The limitation of this way of thinking not only restricts the personal growth and development of medical personnel, but also hinders the innovation process of the medical field as a whole to a certain extent ^[10]. How to break the constraints of traditional thinking and cultivate the innovative thinking ability of medical personnel has become an important topic to enhance their level of innovative literacy.

In addition, the process of advancing innovation practice, as a key link in transforming innovative thinking into practical results, is equally challenging. In the medical field, due to the special and complex nature of medical services, medical practitioners often need to face many dilemmas when carrying out innovative practices. On the one hand, the ethical and safety requirements of medical services make it necessary for medical practitioners to be extremely cautious when trying new treatments and technologies, and any negligence may bring irreversible harm to patients. On the other hand, the limited medical resources and the popularity requirements of medical services also restrict the room for medical practitioners to play in innovative practices, and they need to provide quality medical services to as many patients as possible under the conditions of limited resources. This double pressure makes medical personnel often seem to be unable to achieve the desired results in innovative practice.

3.2. Opportunities and challenges for innovative employment in healthcare

The current state of innovative employment in health care presents a complex and diverse picture of both opportunities and challenges. On the one hand, with the rapid advancement of science and technology, technological innovations are occurring at a dizzying pace, bringing unprecedented new opportunities for healthcare employment. Emerging medical technologies, equipment and treatments continue to emerge, which not only improve the efficiency and quality of medical services, but also provide medical practitioners with more diversified career choices and room for development. In particular, the application of innovative technologies in cutting-edge fields such as medical imaging technology, artificial intelligence and big data, wearable devices and telemedicine is gradually changing the landscape of the traditional healthcare industry, opening up new career development directions and employment opportunities for healthcare practitioners ^[11].

On the other hand, the development of innovative employment in the healthcare field faces many constraints. Among them, the disconnection between the education system and the market demand is a problem that cannot be ignored ^[12]. When many college graduates set foot in the medical employment market, they often find that there is a large gap between the professional knowledge they have learned and the actual work demand, which to a certain extent increases the difficulty of their employment. In addition, the uneven distribution of medical resources is also one of the important factors restricting the development of innovative employment. In some regions, healthcare resources are scarce, making it difficult for primary healthcare workers to obtain adequate support and protection, making it difficult for them to give full play to their professional skills and innovative potential; while in other regions, there is an excess of healthcare resources, which may lead to wastage and inefficiency of healthcare resources, and at the same time limit the room for the development of innovative employment.

Despite the many constraints, innovative employment is still pregnant with great possibilities in the healthcare field ^[13]. At the same time, cross-border cooperation has become one of the important ways to promote medical innovation and employment. Through cross-border cooperation, resource sharing and complementary advantages can be realized to promote the innovative development of the medical industry and provide more

employment and entrepreneurial opportunities for medical practitioners.

4. Paths to explore

In response to the current challenges and problems faced by primary care workers in terms of innovation literacy and innovation employability, this study proposes the following paths of exploration.

4.1. Strengthen innovation education and enhance innovation awareness

Primary health care personnel should have innovative thinking and the ability to innovate. Therefore, medical schools and training institutions can offer innovation courses, invite industry experts to give lectures and share innovation cases to stimulate primary medical personnel's enthusiasm for innovation. At the same time, primary medical personnel can experience innovation in practice and enhance their innovative awareness by simulating medical scenarios and conducting innovation competitions.

4.2. Strengthen clinical practice and enhance innovation ability

Clinical practice is an important way for primary care staff to improve their innovation ability. By participating in clinical practice, primary care personnel can gain a deeper understanding of patients' needs and problems and propose innovative solutions. Healthcare organizations can encourage primary care staff to participate in research projects, exchange experiences with their peers, and discuss innovative methods together. In addition, information technology means, such as establishing online learning platforms and conducting telemedicine, can be used to enhance the innovative practice ability of primary care personnel.

4.3. Optimizing resource allocation to support innovative practice

The Government and all sectors of the community should increase their investment in primary health care institutions, optimize the allocation of resources and provide conditions and platforms for primary health care personnel to engage in innovative practices. For example, it can increase the investment in equipment for primary healthcare institutions to update medical equipment and upgrade the standard of diagnosis and treatment; at the same time, it can establish an innovation fund to support primary healthcare personnel to carry out scientific research projects and innovative practices. In addition, venues and resources for innovation and entrepreneurship can be provided to support primary health care personnel through the establishment of innovation incubators and business parks.

4.4. Strengthening policy guidance to stimulate innovative employment

The Government should strengthen its policy guidance to incentivize primary healthcare personnel to engage in innovative employment. For example, innovation awards can be set up to honour and reward primary medical personnel who have achieved outstanding results in innovation; at the same time, preferential policies can be formulated to encourage primary medical personnel to go to the grassroots and remote areas for employment and entrepreneurship, to contribute to the development of local health care. In addition, primary medical personnel can be motivated to innovate through the establishment of an innovation evaluation mechanism to provide regular assessment and feedback on their innovative achievements.

4.5. Promoting cross-border cooperation and expanding innovative horizons

Primary medical personnel should actively participate in cross-border cooperation and expand their vision of innovation. Through exchanges and cooperation with experts and scholars in different fields and specialties, they can establish the innovative thinking of "Medicine + X" and bring new innovative ideas to the medical field. For example, we can co-operate with science and technology enterprises to jointly develop medical equipment and technologies, or the study can co-operate with universities and research institutes to carry out scientific research projects and cultivate talents, and so on. Through cross-border cooperation, the innovative development of the medical field can be promoted, and the innovative employability of primary healthcare personnel can be enhanced.

5. Summary

After a careful study of the practical path for primary medical personnel to enhance their innovation and employability under the perspective of innovation literacy, we have come to the profound understanding that the enhancement of innovation literacy and employability of primary medical personnel, as an important part of the healthcare services system, is of far-reaching significance in promoting the modernization and transformation of the healthcare services and the intelligent upgrading of healthcare services. The improvement of the education and training system provides a platform for continuous learning and lifelong development for primary healthcare personnel, enabling them to keep abreast of the cutting-edge of medical science and technology, and to master the latest medical technologies and concepts. At the same time, technological innovation and the introduction of tools not only enhance the efficiency and quality of medical services, but also broaden the scope of services and employment channels for primary care personnel. In addition, the deepening of cross-border cooperation and resource sharing has promoted the integration and innovation between the medical field and other industries, bringing more co-operation opportunities and development space for primary medical personnel. The construction of competition and incentive mechanism has further stimulated the enthusiasm for innovation and professional vitality of primary care personnel, and promoted the overall progress and prosperity of the medical industry.

Looking ahead, with the rapid changes in medical technology and the diversification of medical needs, the challenges and opportunities faced by primary care workers will become more complex and varied. In order to continuously enhance the creative literacy and competitiveness of primary care workers, we need to further refine and optimize the education and training system, and introduce more diversified teaching resources and practice opportunities to meet the personalized and differentiated learning needs of primary care workers. At the same time, we need to deepen the integration and innovative application of technology, promote the intelligent and precise development of medical services, and improve the service capacity and quality of primary care personnel. In addition, we also need to enhance the depth and breadth of cross-border cooperation and resource sharing, promote the in-depth integration and innovative development of the medical field with other industries, and provide more opportunities for cooperation and career development paths for primary medical personnel. Finally, we need to build a more open and inclusive competition and incentive mechanism to encourage primary healthcare personnel to actively participate in innovative practices, stimulate their innovative potential and professional enthusiasm, and promote the development of the healthcare industry in the direction of higher quality and efficiency, so as to provide people with more high-quality, convenient and personalized healthcare services.

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References

- [1] Xu J, 2024, Exploring the Innovation of English Practical Teaching System in Primary Schools from the Perspective of Core Literacy. Chinese Journal of Education, 2024(S2): 98–99.
- [2] Lu J, 2005, Humanistic Care and System Innovation in Medical Service. Chinese Journal of Hospital Management, 2005(3): 66–67.
- [3] Wang J, Zhu Y, Liao Q, et al., 2024, Exploring the Innovative Path of Medical Education Under the Perspective of Health Information Literacy. China Health Care Management, 41(6): 690–694.
- [4] Brownstein JN, Hirsch GR, Rosenthal EL, et al., 2011, Community Health Workers "101" for Primary Care Providers and Other Stakeholders in Health Care Systems. The Journal of Ambulatory Care Management, 34(3): 210–220.
- [5] Jaeger FN, Bechir M, Harouna M, et al., 2018, Challenges and Opportunities for Healthcare Workers in a Rural District of Chad. BMC Health Services Research, 18: 1–11.
- [6] Robertshaw L, Dhesi S, Jones LL, 2017, Challenges and Facilitators for Health Professionals Providing Primary Healthcare for Refugees and Asylum Seekers in High-Income Countries: A Systematic Review and Thematic Synthesis of Qualitative Research. BMJ Open, 7(8): e015981.
- [7] Zhou T, Wei Q, Mok H, 2024, Evidence-Based Design of Healthcare Environments Based on Environmental Healing Theory. Western Habitat Journal, 39(5): 64–70.
- [8] Huang E, 2021, "Thousand County Project": Give Full Play to the "Bottom Line" and "Leading Role" of Countylevel Hospitals. China Health, 2021(12): 70–72.
- Yu YL, Wu YX, Qian JW, et al., 2024, Conceptual Analysis of Health Literacy Promotion in Medical Institutions. Medicine and Philosophy, 45(13): 1–5.

- [10] Qiao R, 2022, Research on the Innovative Cultivation of Vocational Literacy of Higher Vocational Medical Students. Innovation and Entrepreneurship Theory Research and Practice, 5(15): 85–87.
- [11] Gao L, 2014, Exploration of the Promoting Role of Social Practice Activities on the Employment of Chinese Medicine Students Towards the Basic Level. Henan Education (Higher Education), 2014(4): 61–62.
- [12] Wang X, Ding D, Wu B, 2023, Research on the Educational Flow Path of Medical-Industrial Integration Talents Under the Demand of Intelligent Recreation. Henan Education (Higher Education), 2023(3): 71–73.
- [13] Chen C, 2022, Analysis of Medical Job Demand and Employment Countermeasures in the Post-Epidemic Period— Taking Fujian Province as an Example. Innovation and Entrepreneurship Theory Research and Practice, 5(3): 113– 116 + 147.

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