



Original Article (Qualitative)

Providing a competency-based model of skills and professional training in the Ministry of Health and Medical Sciences Education

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Abstract

The aim of this study was to present a competency-based skill and professional training model in the Ministry of Health and Medical Education. This study was applicable-developmental in terms of purpose, qualitative in terms of research method, and was conducted using the content analysis method. The data collection tool consisted of two parts: a review and exploration of research literature in the library section, and semi-structured interviews in the field section. The participants in this study in the field section were professors in the field of education and educational managers in the Ministry of Health and Medical Education. Individuals were selected using purposive sampling with the criteria of at least 10 years of experience in educational management and complete familiarity with this field. Semi-structured interviews with participants continued until the theoretical saturation stage. The method of analyzing the interviews was carried out using the content analysis method (basic, organizing and comprehensive themes). The coding and textual analysis of the interviews was carried out in the qualitative data analysis software MAXQDA 2018. The results showed that the competency-based skills and professional training model in the Ministry of Health and Medical Education consists of five dimensions and 22 components, the dimensions of which are: skills and clinical training, professional and ethical training, management and organizational training, individual and developmental training, and training based on new technologies.

Keywords:

skills training,
clinical training,
professional training,
competence.

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Extended abstract

Introduction

In recent years, with the advancement of technology and digital transformation, fundamental changes have taken place in various sectors of education (Naji & Alirezaei., 2025), and the advancement of medical education has become one of the fundamental axes in the formation of efficient health systems around the world. In Iran, the Ministry of Health and Medical Education plays an important role in monitoring and regulating medical and health-related education, and its goal is to train health professionals who can deal with current and future challenges. In recent years, scientific and professional education in this sector has undergone significant changes, influenced by technological advances, global trends in health, and the need for evidence-based practices. However, the question remains whether the current educational framework adequately prepares health professionals for the needs of modern health systems, which require a combination of theoretical knowledge, practical skills, and interdisciplinary abilities. Competency-based education is a new educational approach to train a different generation of doctors. This educational approach addresses two issues: defining a valid outcome and designing an assessment tool to assess the first. The first is the important issue of defining competencies. Despite many similarities, different countries have tried to define appropriate competencies for medical education according to the needs of their society and health care delivery system (Vakilzadeh et al., 2023.)

In recent years, competency-based medical education, which emphasizes the development of practical skills alongside theoretical knowledge, has become a global trend. Competency-based medical education has proven its effectiveness in producing health professionals who are able to adapt to different clinical environments (Sultan et al., 2025). The main issue of this research is competency-based skill and professional training of employees in a way that improves human resource productivity in the organization. In this regard, the present study attempts to evaluate the factors affecting the success of competency-based skill and professional training in the Ministry of Health and Medical Education. Therefore, this study attempts to answer the research question: what are the dimensions and components of competency-based skill and professional training in the Ministry of Health and Medical Education?

Review of Theoretical Foundations

Competency-Based Vocational and Skill Training

Competency-Based Vocational and Skill Training is a new approach in educational systems and the labor market that focuses on developing practical, knowledge, and attitudinal abilities required to perform real job tasks. In this approach, the learner must be able to apply what he or she has learned in real situations and demonstrate his or her competence in practice. Assessment is also not based on classroom attendance, but on actual performance and the level of mastery of defined competencies. This type of training strengthens the connection between education and the labor market and fosters an efficient and responsive workforce (ILO, 2022).

Research Background

Karunarathna (2025) conducted a study titled Leadership Development and Continuing Education in Healthcare: Integrating Competency-Based Frameworks. Simulation-based education further enhances skill acquisition, ethical reasoning, and interprofessional collaboration, and shows direct links to improved patient safety measures. Collectively, these developments emphasize that the future of medical education lies in integrating lifelong learning with leadership development and team-based practice. By aligning individual



competence with systemic practice, contemporary medical education contributes not only to patient-level outcomes but also to the resilience and effectiveness of healthcare systems as a whole.

Kohrt et al. (2025) conducted a study titled Competency-Based Education and Supervision: Developing the WHO-UNICEF Quality Assurance Initiative in Mental Health and Mental Care (EQUIP). This study describes the 5-year development (EQUIP 2018–2023) and the rationale for supporting the content and its use. The development steps included consensus building for competency-based strategies; selection of core competencies; assessment of the feasibility of assessments, role play, and technology; piloting EQUIP when training non-specialists; and public release and ongoing adaptations to increase scalability. From its public launch in March 2022 to March 2024, the EQUIP digital platform has been used in 794 training programs in 36 countries with 3,760 trainees, resulting in 10,001 competency assessments.

Sultan et al. (2025) conducted a study entitled Competency-based education and training for community health workers. This study reviewed a total of 713 articles and included 236 articles based on the inclusion and exclusion criteria for extraction. The most common area of practice included “extension and prevention services,” while “personal safety” was the least common. Training programs tailored to CHWs with low literacy, content tailored to local cultural contexts, and curricula designed jointly with CHWs were identified in the literature as effective strategies for translating learning into practice. Information on organizational support for CHWs was not provided in most of the reviewed articles. While the focus of this study was on education and training rather than broader CHW support, the results still showed that education was often discussed separately from other related support factors, including professionalization and career advancement.

Research Methodology

This study was applicable-developmental in terms of purpose, and qualitative in terms of research method, using thematic analysis. The data collection tool consisted of two parts: a review of the research literature in the library section and semi-structured interviews in the field section. The participants of this research in the field were professors in the field of education and educational managers in the Ministry of Health, Treatment and Medical Sciences Education. The selection of individuals was carried out through purposive sampling with the criterion of at least 10 years of experience in educational management and complete familiarity with this field. Semi-structured interviews with the participants (12 people) continued until the theoretical saturation stage. The method of analyzing the interviews was carried out using the content analysis method (basic, organizing and comprehensive themes). The coding and text analysis process of the interviews was carried out in the qualitative data analysis software MAXQDA 2018.

Research findings

The findings indicate that the dimensions of competency-based skills and professional training in the Ministry of Health and Medical Sciences Education include five dimensions and 22 components, which are: the first dimension of skills and clinical training (including components of diagnostic and therapeutic skills, surgical and invasive methods, specialized nursing skills, medical emergency management), professional and ethical training (including components of communication and empathy skills, professional ethics, teamwork and interprofessional skills, management and leadership, patient rights, confidentiality and preservation of patient information, decision-making in difficult ethical situations), managerial and organizational training (including components of quality management and

patient safety, resource and budget management, data management and health information technology, legal training, crisis management training), individual and developmental training (including components of stress management and burnout, resilience and self-care), training based on new technologies (including components of intelligence Artificial intelligence and machine learning, telemedicine and telehealth, virtual reality and augmented reality, 3D printing and regenerative medicine).

Discussion and Conclusion

The aim of the present study was to present a competency-based vocational and skill training model in the Ministry of Health and Medical Education. The results show that the dimensions of competency-based vocational and skill training in the Ministry of Health and Medical Education include five dimensions and 22 components, which are: the first dimension of skill and clinical training, professional and ethical training, managerial and organizational training, individual and developmental training, and training based on new technologies. The results of this study are somewhat consistent with the results of Assadisharif et al. (2024), Nagai et al. (2024), and Vakilzadeh et al. (2023), and confirm the results of this study. Based on the results of the study, the dimensions of competency-based vocational and skill training in the Ministry of Health and Medical Education represent a comprehensive and systematic approach to improving the capabilities of health workers. The existence of five main dimensions shows that the development of professional competencies is not limited to clinical training alone, but also includes ethical, managerial, personal, and technological aspects. The dimension of skills and clinical training is considered the main axis of professional empowerment because it leads to the improvement of diagnostic, therapeutic, and emergency management skills. In addition, ethical and professional training plays a vital role in the formation of responsible behaviors and effective communication with patients, which results in increased public trust in the health system. This synergy between clinical skills and ethical values improves the quality of health services at different levels. In conclusion, the results show that to achieve effective competency-based training, the design of training programs should be multidimensional and flexible, and in addition to technical skills, emphasize the strengthening of managerial, personal, and technological skills.