

Original article

Foundations of a training strategy for the professional performance of Family Medicine specialists on Intensive Care and Emergency Medicine



Fundamentos de una estrategia de capacitación para el desempeño profesional de los especialistas en Medicina Familiar sobre Medicina Intensiva y Emergencia

Fundamentos de uma estratégia de formação para o desempenho profissional de médicos especialistas em Medicina de Família em Cuidados Intensivos e Medicina de Emergência

Freddy Elier Torres Cordero¹  0009-0003-1917-3390  freddyeliercordero@gmail.com

Carlos Ricardo Pérez Díaz²  0000-0001-6269-5934  carlperez@infomed.sld.cu

Juan Carlos Vento Carballea³  0000-0001-8300-4995  juan.vento@upr.edu.cu

Ivis Anabel Rodríguez Cruz¹  0000-0001-5901-5571  ivisrodriguez400@gmail.com

¹ University Polyclinic "Pedro Borrás Astorga". Pinar del Río, Cuba.

² Cuban Red Cross. Pinar del Río, Cuba.

³ University of Pinar del Río "Hermanos Saíz Montes de Oca". Pinar del Río, Cuba.

Received: 25/08/2025

Accepted: 20/10/2025

ABSTRACT

New discoveries are constantly being made, and approaches and techniques are being introduced that radically change the frameworks for managing common situations associated with the specialty

of Intensive Care and Emergency Medicine. However, Family Physicians graduate with deficiencies in the development of some skills for patient care within their scope of practice, leading to low levels of patient satisfaction. When this occurs in Primary Health Care (PHC), it generates unfavorable opinions that increase the number of cases received in hospital emergency departments. Based on the above, the objective of this research was to determine the foundations of a training strategy for the professional performance of Family Medicine specialists in Intensive Care and Emergency Medicine. The study used historical-logical analysis as a theoretical method. Empirical methods included document analysis, observation, surveys, satisfaction tests, and interviews. The results show that there are shortcomings in this process, which have repercussions in multiple areas. Hence the need to transform this training process for these specialists, to effectively influence the improvement of their professional performance.

Keywords: training; professional performance; family medicine.

RESUMEN

Se producen constantemente descubrimientos y se introducen enfoques y técnicas que cambian radicalmente los esquemas para el manejo de situaciones comunes asociadas con la especialidad de Medicina Intensiva y Emergencia. Sin embargo, el Médico Familiar egresa con carencias en el desarrollo de algunas habilidades para la atención de pacientes en su radio de acción, lo que trae consigo un bajo nivel de satisfacción de la población. Cuando lo anterior ocurre en la Atención Primaria en Salud (APS), se crean opiniones desfavorables que hacen que se incrementen los casos recibidos en los servicios de urgencias de los hospitales. A partir de lo expresado anteriormente, se planteó como objetivo de la presente investigación: determinar los fundamentos de una estrategia de capacitación para el desempeño profesional de los especialistas de Medicina Familiar sobre Medicina Intensiva y Emergencia. En el estudio se utilizó como métodos teóricos el análisis histórico-lógico. Como métodos empíricos: análisis documental, observación, encuesta, test de satisfacción y entrevista. Los resultados muestran que existen insuficiencias en este proceso, lo que tiene repercusión en múltiples aristas. De aquí parte la necesidad de transformar este proceso de capacitación de estos especialistas, en función de lograr influir de manera más efectiva en la mejora de su desempeño profesional.

Palabras claves: capacitación; desempeño profesional; medicina familiar.

RESUMO

Novas descobertas são constantemente feitas, e abordagens e técnicas são introduzidas, alterando radicalmente os paradigmas para o manejo de situações comuns associadas à especialidade de Medicina Intensiva e Emergência. Contudo, médicos de família se formam com deficiências no desenvolvimento de algumas habilidades para o cuidado ao paciente dentro de sua área de atuação, o que leva a baixos níveis de satisfação do paciente. Quando isso ocorre na Atenção Primária à Saúde (APS), gera opiniões desfavoráveis que aumentam o número de casos recebidos nos serviços de emergência hospitalares. Diante disso, o objetivo desta pesquisa foi determinar os fundamentos de uma estratégia de formação para o desempenho profissional de médicos de família especialistas em Medicina Intensiva e Emergência. O estudo utilizou a análise histórico-lógica como método teórico. Os métodos empíricos incluíram análise documental, observação, questionários, testes de satisfação e entrevistas. Os resultados mostram que existem lacunas nesse processo, que têm repercussões em múltiplas áreas. Daí a necessidade de transformar esse processo de formação para esses especialistas, a fim de influenciar de forma mais efetiva a melhoria de seu desempenho profissional.

Palavras-chave: formação; desempenho profissional; medicina familiar.

INTRODUCTION

Currently, the Cuban State's efforts in acquiring cutting-edge technologies for critical care units, both pediatric and adult, and in strengthening primary care as a fundamental link in the critical care chain are widely recognized. This background highlights the challenge of addressing the scientific and technical development of these health services through ongoing and continuous training, an element that has been achieved through postgraduate diplomas and courses, which have enabled these professionals to perform their duties effectively (Amaró Garrido, 2023; Basain Valdés, 2023).

According to current projections of Cuban public health, the mobility of medical personnel has resulted in an imbalance between competence and professional performance, as well as in the

available technological adaptation, which generates the need to outline training strategies and fulfill them systematically to achieve the required social impact (Espinosa Brito, 2022).

The Integrated Medical Emergency System (SIUM) in Cuba, established in 1997, has enabled the organization of emergency and urgent medical care in all provinces. However, the training of physicians in these areas has not always been systematic, making it urgent to redesign professional development processes with an advanced medical education approach (Águila Trujillo, 2024; Morales Rivero, 2024).

The development of skills and the performance of healthcare professionals are crucial in the management of critically ill patients, as the level of scientific and technical expertise achieved directly impacts the quality of care. Therefore, a training management system is needed to provide healthcare personnel with a tool for advancing in science and technology, as well as to create the necessary scientific foundation to meet healthcare strategies through 2025 (García-Ortiz, 2024).

Likewise, several authors emphasize that medical education and primary care should be based on an integral paradigm, in which continuous learning, interdisciplinarity and the evaluation of competencies are essential pillars to raise professional performance and the satisfaction of the population (Torres Peixoto, 2022; Núñez López, 2022; Tapia-Mieles, 2022).

New approaches and techniques are constantly emerging that transform the management schemes for common situations in Intensive Care and Emergency Medicine; however, family physicians still graduate with deficiencies in the development of specific skills for the care of patients within their scope of action, which affects the level of satisfaction of the population and the overload of hospital services (Andrade-Pizarro, 2023; López Marén, 2024).

The systematization carried out on the behavior of health problems in Primary Care, from the One Health approach (One Health), shows the need to strengthen the training of health professionals and, in particular, family doctors, in the management of medical emergencies with a preventive, humanistic and ethical approach (Muñoz Ñañez, 2024), contributing to the improvement of medical care at the first level of health (Valcárcel et al., 2023).

Continuing medical education is a pillar of ensuring the quality of healthcare services and the ongoing professional development of healthcare personnel in the face of the challenges posed by modern

clinical practice. In a context characterized by rapid scientific and technological development and the emergence of new health problems, professionals are required to have a solid foundation that allows them to respond effectively to the healthcare, teaching, and research demands of the healthcare system. The training and professional development of physicians in the field of Family Medicine and primary healthcare are strategic, as these professionals are responsible for the first contact with the population and for the comprehensive follow-up of patients and their families.

Improving professional competencies in the field of Intensive Care and Emergency Medicine is a priority area within the medical training process, especially in the Cuban context, where emergency and intensive care services are an essential part of the healthcare system. Emergency situations demand rapid decision-making, mastery of updated protocols, and technical skills that can only be acquired and maintained through contextualized medical education. In this regard, the training of Family Medicine specialists in these areas has significant importance, enabling them to competently provide initial care to critically ill patients and coordinate timely transfers to secondary and tertiary levels of care.

Contemporary scientific developments in the medical sciences demand a transformation of training models, orienting them toward more comprehensive, participatory, and evidence-based approaches. Several authors have highlighted the importance of continuing medical education as a social, interactive, and reflective process that must articulate scientific knowledge with the real needs of the context (Addine Fernández, 2015). This vision implies recognizing that training cannot be limited to the mere transmission of knowledge, but must foster the development of professional, ethical, and human competencies consistent with the primary care model and the principles of the Cuban National Health System.

In this context, the training of family physicians must be conceived as a dynamic and dialectical process, integrating clinical practice, research, and teaching as inseparable dimensions of their professional performance. Training in Intensive Care and Emergency Medicine strengthens clinical thinking, problem-solving skills, and decision-making under pressure, essential aspects for comprehensive patient care in critical situations. At the same time, it contributes to improving patient safety and the effectiveness of medical interventions at the primary care level, resulting in a reduction of morbidity and mortality from preventable causes.

Analysis of international trends in medical education reveals a growing concern for the assessment of professional competencies, the implementation of active learning methodologies, and the use of information and communication technologies as tools for ongoing professional development. In Cuba, these principles are integrated with the foundations of higher medical education, where the integration of teaching, clinical practice, and research is a guiding principle. From this perspective, the training of family physicians in urgent and emergency care is oriented towards strengthening the preventive approach, teamwork, and community-based care in the face of natural disasters or epidemiological events, in accordance with the guidelines of the Ministry of Public Health (MINSAP, 2023).

This research is based on the need to improve professional training processes for Family Medicine specialists, stemming from the recognition of persistent shortcomings in their updated knowledge of Intensive Care and Emergency Medicine. Evidence obtained from institutional assessments and performance evaluations reveals deficiencies in the mastery of current clinical protocols, the application of life support procedures, and the management of critical situations at the primary care level. These shortcomings limit the physician's problem-solving capacity and, consequently, the efficiency of the healthcare system. Therefore, it is essential to design contextualized, flexible, and sustainable training strategies that respond to the real needs of healthcare professionals and institutions.

Furthermore, this research is relevant due to its potential contribution to achieving the Sustainable Development Goals (SDGs), particularly SDG 3, which aims to ensure healthy lives and promote well-being for all ages. Medical training is a means to achieve this goal by strengthening human resources in health and improving the quality of services. According with this approach, the proposed strategy aligns with the 2030 Agenda and Cuba's National Economic and Social Development Plan until 2030, both of which recognize the strategic role of knowledge, science, and innovation as conductors of sustainable development.

The expected impact of this study is expressed not only in the improvement of the professional performance of Family Medicine specialists, but also in the creation of conditions for the sustainability of the training process through the integration of educational research, continuous evaluation, and the active participation of professionals in their own learning. In this way, a culture of continuous

improvement and commitment to excellence in medical care is promoted, which constitutes a guarantee for the quality and equity of health services.

This research addresses the need to provide a theoretical and methodological foundation for a training strategy that will enhance the preparation of family physicians in the areas of Intensive Care and Emergency Medicine. The social, scientific, and institutional relevance of this proposal lies in its ability to align training processes with the demands of the current context and the challenges of contemporary medical practice, reaffirming the principle that continuing medical education is a vital process in consolidating a healthcare system centered on the human being, equity, and quality of life.

Following the above, the objective of this research was to determine the foundations of a training strategy for the professional performance of Family Medicine specialists on Intensive and Emergency Medicine.

MATERIALS AND METHODS

A descriptive study was conducted based on a literature review and the application of theoretical and empirical methods. From a theoretical perspective, the historical-logical, analysis-synthesis, and inductive-deductive methods were implemented, which allowed for the analysis of conceptions of medical training from diverse contemporary approaches and contexts.

At the empirical level, documentary analysis, observation, survey, satisfaction test and interview were used, with the purpose of obtaining comprehensive information on the training process and the professional performance of Family Medicine specialists.

For the development of the study, 100% of the target population was used, consisting of 149 Family Medicine specialists working in the health areas of the "Pedro Borrás Astorga" University Polyclinic, in the municipality of Pinar del Río, during the years 2023 and 2024. This study universe ensured the representativeness and reliability of the results.

Validated instruments were designed and applied to diagnose the initial state of the training process for the professional performance of family physicians in relation to the content of Intensive Care and Emergency Medicine. The techniques used adhered to the principles of methodological rigor inherent

in educational research in health, which allowed for obtaining valid empirical evidence to support the proposed transformations.

The data was processed using qualitative and quantitative analysis procedures, prioritizing the triangulation of sources and techniques to ensure the reliability of the conclusions. The collected data was analyzed under the principle of confidentiality and with the informed consent of the participants, complying with the ethical precepts established in the Declaration of Helsinki and national medical research regulations.

RESULTS

The initial assessment revealed that the training of Family Medicine specialists is fragmented, with little integration between theoretical content and practical skills, hindering collaboration across different levels of care within the health system. Limited planning of professional development activities specifically aimed at strengthening performance in Intensive Care and Emergency Medicine was also observed, along with deficiencies in feedback on clinical practice outcomes.

The analysis of the collected information made it possible to conceptually define the training of Family Medicine specialists in Primary Health Care as a system of actions that should prepare professionals in the order of knowledge, care, dissemination and health education, with emphasis on efficient performance of job functions and quality of medical care.

The results of the training system modeling process demonstrate the need to establish theoretical, methodological, and practical foundations to support the proposed strategy. These foundations will allow for the restructuring of training activities to meet the current demands of the healthcare system and contribute to the continuous improvement of family physicians' professional performance.

In this way, sufficient evidence was obtained to affirm that the transformation of the training process constitutes an urgent need to achieve a greater impact on the care of seriously ill patients from Primary Health Care.

Philosophical foundations

The philosophical foundation of this strategy stems from dialectical and historical materialism, understood as the theoretical basis for interpreting educational and social processes in their constant transformation. From this perspective, medical training is conceived as a dynamic, comprehensive, and contextualized process, where healthcare professionals are trained through ongoing interaction with the social, economic, and cultural realities of their environment.

The holistic paradigm, consistent with the principles of contemporary scientific thought, emphasizes the interrelationship between natural and social phenomena. This implies recognizing that each health system constitutes an open and constantly reorganizing whole, based on interdisciplinarity, complexity, and the integration of knowledge. From this perspective, medical education is geared toward training professionals capable of understanding the unity between knowledge, practice, and human values. Likewise, the strategy recognizes the humanist roots of Cuban thought, which places the individual at the center of the educational process. Therefore, medical training is considered an ethical and social act aimed at human development, for the benefit of collective well-being.

Sociological foundations

The vocational training process cannot be analyzed in isolation from the relationship between education and society. The strategy is based on the recognition of education as a social phenomenon that reflects and transforms living conditions, work organization, and the culture of communities.

Professional development in healthcare plays a crucial role in the reproduction and development of human capital. Therefore, the link between medical training and the community is seen as an essential avenue for social participation and ethical commitment to collective well-being. In this way, the relationships between individuals and society, and between society and education, are articulated, recognizing the transformative role of physicians as social agents in health promotion.

The medical university, as a socializing institution, must ensure that its training and education respond to the real needs of the community. Consequently, the professional development process is not limited to the acquisition of knowledge, but also promotes social responsibility, equity, and healthcare justice.

Psychological foundations

From a psychological perspective, the strategy is based on the sociocultural approach, which attributes a central role to education in personality development and knowledge construction through social interaction. Medical training, viewed from this perspective, fosters the holistic development of the professional, addressing cognitive, affective, and motivational aspects.

It is assumed that every personality is the result of the individual's personal and social history; therefore, training must consider prior experiences, learning needs, and the specific working conditions of each professional. The interaction between thought, emotion, and action constitutes an essential principle in the design of continuing education programs in health. Likewise, the regulatory role of professional conscience and ethical values in medical practice is emphasized, and these are strengthened through educational processes based on critical reflection, cooperation, and self-regulation.

Fundamentals of medical education

The strategy is based on contemporary principles of higher medical education, focused on comprehensive training, competency assessment, and continuous performance improvement. In this sense, it recognizes that health training should be a systematic, continuous, and contextualized process, where meaningful learning is directly linked to the needs of clinical practice.

The professional development of family physicians requires integrating teaching, research, and clinical practice with a student-centered, problem-solving approach to learning. This educational framework promotes autonomy, self-evaluation, and interdisciplinary collaboration, essential components for strengthening professional performance.

Cuban medical education, aligned with the Sustainable Development Goals and the universal health perspective, demands training strategies that contribute to equity, quality of care, and the humanization of services. Consequently, the proposed strategy is based on a conception of continuing education as a driver of innovation and social development.

DISCUSSION

Improving the quality of health services and increasing public satisfaction is a priority for the National Health System in Cuba and Latin America. In this regard, professional training has been reaffirmed as an essential component of contemporary medical education, enabling the continuous improvement of human resources in response to healthcare demands and technological advancements (Amaró Garrido, 2023; Espinosa Brito, 2022).

Primary care medical training requires a systematic process of continuing education to ensure mastery of clinical, communication, and ethical competencies, essential for comprehensive patient care. Several recent studies highlight that ongoing training programs contribute to improved clinical decision-making and responsiveness to critical situations, especially in urgent and emergency settings (Basain Valdés, 2023; Morales Rivero, 2024).

In general, the results of this research coincide with the findings of Latin American studies that demonstrate the need to strengthen training and supervision processes in the field of Primary Health Care (Oliveira, 2020; Torres Peixoto, 2022). These studies show that the effectiveness of educational strategies depends on their alignment with the real conditions of the health system and the active involvement of professionals in their own learning.

It is also recognized that the development of professional competencies in Family Medicine must be approached from a comprehensive perspective, incorporating elements of management, leadership, research, and bioethics. In this sense, professional development processes should foster critical analysis skills, self-reflection, and the application of scientific knowledge to daily medical practice (Valcárcel et al., 2023).

The COVID-19 pandemic highlighted existing weaknesses in continuing education processes, but it also generated new opportunities for implementing flexible educational strategies based on virtual learning and interprofessional cooperation (Muñoz Ñañez, 2024). These experiences have demonstrated that medical training must incorporate technological innovation as a tool to support the development of competencies, without losing sight of the humanistic values that underpin the practice of medicine.

Similarly, it was identified that training focused on Intensive Care and Emergency Medicine at the primary care level constitutes an urgent educational need. Family physicians, being closer to the community, require specific training that allows them to identify, manage, and refer critically ill patients in a timely manner, thus strengthening the comprehensiveness of the health system (López Marén, 2024; Pérez-Wulff, 2024).

The literature review and the study results reaffirm that medical education should be oriented towards a model centered on lifelong learning, the integration of knowledge, and the continuous evaluation of professional performance. Training, conceived as a conscious transformation process, is thus consolidated as an indispensable tool for improving the quality of services and patient satisfaction (Tapia-Mieles, 2022; García-Ortiz, 2024).

Furthermore, the results of this research align with recent findings from other studies that reinforce the importance of continuing medical education and professional development in the Cuban and Latin American context. Betancourt Plaza and Véliz Martínez (2023) emphasize that strengthening professional competencies in Intensive Care and Emergency Medicine is essential for improving the quality of care and clinical leadership. Similarly, Díaz Rojas and Rodríguez Díaz (2023) propose educational strategies focused on hospital practice that can be adapted to the primary care level to enhance physician performance.

The training process for the professional performance of Family Medicine specialists working in Primary Health Care is an urgent need to raise the quality of medical care and the satisfaction of the population.

The results obtained show that current training has limitations in terms of its systematicity, relevance and scope, which affects the preparation of professionals to effectively deal with medical emergencies and urgent situations at the primary care level.

The philosophical, sociological, psychological and medical education foundations that support the proposed strategy allow us to understand that the training of the family doctor should be conceived as a continuous, comprehensive and contextualized process, in which clinical practice, research and professional development are articulated.

The proposed training strategy aimed at strengthening skills in Intensive Care and Emergency Medicine from Primary Care promotes scientific updating, ethical commitment and social responsibility of the health professional, while favoring more humanized and effective care.

Consequently, it is concluded that the transformation of the medical training process in this area will contribute significantly to the improvement of the professional performance of Family Medicine specialists and, therefore, to the improvement of the National Health System.

REFERENCES

Addine Fernández, F. (2015). *La formación del profesional de la educación: desafíos y perspectivas actuales*. Editorial Pueblo y Educación. <https://rc.upr.edu.cu/handle/DICT/183>

Águila Trujillo, L. A. (2024). La importancia de la comunicación en el Sistema Integrado de Urgencias Médicas (SIUM). *Revista Cubana de Gestión Sanitaria*, 3(3), 6374. https://scielo.sld.cu/scielo.php?pid=S1727-897X2024000300638&script=sci_arttext

Amaró Garrido, M. A. (2023). Formación docente en los médicos de la Atención Primaria de Salud. *Educación Médica Superior*, 37(1), 3241. https://scielo.sld.cu/scielo.php?pid=S2077-28742023000100032&script=sci_arttext

Andrade-Pizarro, L. M. (2023). Retos y desafíos de enfermería para fortalecer la Atención Primaria en Latinoamérica. *Revista de Enfermería Actual*, 37(3), 7790. https://ve.scieno.org/scielo.php?pid=S2610-80382023000200041&script=sci_arttext

Basain Valdés, J. M. (2023). Estrategia de superación profesional para la atención integral del paciente con diabetes: diseño y evaluación. *Educación Médica Superior*, 37(4), 5870. https://scielo.sld.cu/scielo.php?pid=S0864-21412023000400003&script=sci_arttext

Betancourt Plaza, I., & Véliz Martínez, P. L. (2023). Desarrollo de competencias profesionales en Medicina Intensiva y de Emergencias: retos y perspectivas. *Educación Médica Superior*, 37(4), 113. https://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21412023000400012

Díaz Rojas, E., & Rodríguez Díaz, C. (2023). Estrategias educativas para la formación continua del personal médico en servicios hospitalarios. *Revista Cubana de Educación Médica Superior*, 37(3), 5566. https://scielo.sld.cu/scielo.php?pid=S0864-21412023000300055&script=sci_arttext

Espinosa Brito, A. D. (2022). Educación médica: cambiar con el cambio una vez más. *Revista Cubana de Educación Médica Superior*, 33(3), 3947. https://scielo.sld.cu/scielo.php?pid=S1727-897X2022000300391&script=sci_arttext

García-Ortiz, J. M. (2024). Fortalecimiento de la calidad del servicio de salud mediante modelos de gestión: implicaciones para la atención primaria. *Revista TELos / Salud Pública*, 27(1), 1529. https://ve.scien.org/scielo.php?pid=S2610-80382024000100016&script=sci_arttext

López Marén, A. (2024). Intervención educativa en médicos de nivel primario sobre reperfusión coronaria: diseño y resultados preliminares. *Medicina General Integral*, 41, e3423. <https://scielo.sld.cu/pdf/mgi/v41/1561-3038-mgi-41-e3423.pdf>

Morales Rivero, R. A. (2024). Formación colaborativa interprofesional en residentes de Enfermería Intensiva y Emergencia. *Educación Médica Superior*, 38(2), 4558. https://scielo.sld.cu/scielo.php?pid=S2077-29552024000200245&script=sci_arttext

Muñoz Ñañez, D. (2024). Salud Móvil (mHealth) en profundidad: aportes para la formación y la práctica clínica en APS. *Espacios de Salud Pública*, 46(3), 130148. <https://ve.scien.org/pdf/espacios/v46n3/0798-1015-espacios-46-03-130.pdf>

Núñez López, M. B. (2022). Resultados de la evaluación durante el proceso de formación en la Facultad de Ciencias Médicas de Sagua la Grande. *Revista Cubana de Educación Médica*, 30(2), 5061. https://scielo.sld.cu/scielo.php?pid=S2077-28742022000100059&script=sci_arttext

Tapia-Mieles, M. A. (2022). Competencias del profesional de enfermería y perfil de egreso: aportes para la atención primaria en Ecuador. *Revista Latinoamericana de Enfermería*, 18(2), 101115. https://ve.scien.org/scielo.php?pid=S2610-80382022000200048&script=sci_arttext

Torres Peixoto, M. (2022). Evaluación de la formación médica en Atención Primaria de Salud: un estudio desde Bahía, Brasil. *Educación Médica Superior*, 36(1), 1222.

https://scielo.sld.cu/scielo.php?pid=S0864-21412022000100013&script=sci_arttext

Valcárcel, N., Lemus, E. R., & Valdés, M. (2023). Epistemología de la educación médica: sistematización cubana. *Revista de Epistemología Médica*, 2(1), 524.

https://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2077-29552023000100005

Conflict of interest

Authors declare no conflict of interests.

Authors' contribution

The authors participated in the design and writing of the article, in the search and analysis of the information contained in the consulted bibliography.



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License