



## **Innovative Approaches in Medical Education for Family Medicine: Trends, Challenges, and Perspectives in Romania**

**Felicia Andrei<sup>1</sup>, Daniela Gurguș<sup>2</sup>, Roxana Folescu<sup>3</sup>**

1. Victor Babeș' University of Medicine and Pharmacy Timișoara, Family Medicine University Clinic, [felicia.andrei@umft.ro](mailto:felicia.andrei@umft.ro), [ORCID](#)
2. 'Victor Babeș' University of Medicine and Pharmacy Timișoara, Family Medicine University Clinic, [ORCID](#)
3. 'Victor Babeș' University of Medicine and Pharmacy Timișoara, Family Medicine University Clinic, [ORCID](#)

**DOI:** 10.63467/all16.art1

### **Abstract**

Family Medicine represents a cornerstone of healthcare delivery, requiring a solid educational foundation that integrates clinical knowledge, communication, prevention, and continuity of care. In Romania, the continuous evolution of academic requirements and healthcare needs has stimulated a reassessment of medical education approaches, particularly in the context of European integration and global health challenges.

This study evaluates current trends in Family Medicine education in Romania, with a focus on competency-based curricula, digital platforms, and interprofessional training, aiming to identify innovative directions and existing challenges.

A mixed-methods approach was adopted, consisting of a review of national curricula and policy documents, analysis of European recommendations, and a cross-sectional survey involving 126 family medicine residents and 42 academic trainers from five Romanian medical universities.



Quantitative data were analysed descriptively, while qualitative responses underwent thematic coding to identify recurrent patterns.

The results highlight a gradual but steady transition towards competency-based training, with an increasing emphasis on clinical reasoning, patient-centered care, and preventive strategies. E-learning platforms and case-based simulations were perceived as valuable, especially during and after the COVID-19 pandemic. Respondents stressed the necessity of integrating telemedicine, health promotion, and communication skills into teaching. However, significant barriers were noted, such as uneven access to digital infrastructure, limited simulation resources, and insufficiently structured mentorship programmes.

Family Medicine education in Romania is currently aligning with European standards while addressing local healthcare realities. To enhance the preparedness of future physicians, investment in digital competencies, interprofessional learning, structured mentorship, and continuous assessment tools is essential. By bridging these gaps, Family Medicine can remain a dynamic discipline, capable of responding effectively to the evolving health needs of patients and communities.

**Keywords:** Family Medicine, medical education, competency-based curriculum, digital learning, Romania, interprofessional training.

## 1. Introduction

Family Medicine is the foundation of modern health care systems, as it represents the initial contact between the patient and the medical profession. It derives its strength from continuity, comprehensiveness, and a person-centred approach. The specialty demands a wide range of clinical and interpersonal competencies across preventive, diagnostic, and therapeutic areas. In Romania, Family Medicine (FM) occupies a unique role within the healthcare structure, serving both urban and rural communities. Over the last two decades, educational reforms and European integration have prompted significant shifts in medical education, with increased attention to



competency-based learning, digital tools, and interprofessional collaboration. Yet, the transition remains incomplete, facing structural, pedagogical, and logistical barriers.

## **2. Background**

The global shift towards competency-based medical education (CBME) has transformed curricula in most of Europe. The World Federation for Medical Education (WFME) and European Academy of Teachers in General Practice (EURACT) have made guidelines that emphasize evidence-based decision-making, ethical conduct, communication skills, and practical competencies. In Romania, FM residency programmes have more and more incorporated these principles. The Ministry of Health and the medical universities have introduced modules that encourage active learning, reflective practice, and problem-solving.

The COVID-19 pandemic expedited the transition to digital and hybrid learning modalities even further. Digital consulting, remote assessment, and simulation-based training are now essential tools. The period brought to light the potential as well as the limitations of digitalisation in medical education, especially where direct patient contact is involved as well as communication sensitivity, like in the case of Family Medicine.

## **3. Methodology**

A mixed-method study between January and June 2024 was conducted. The study combined a documentary review with a cross-sectional survey in order to explore the status and attitudes towards FM education in Romania. The study design integrated documentary review and cross-sectional survey elements to reflect the training trends from both institutional and participant viewpoints. Documentary review consisted of national curricula, official Romanian Ministry of Health regulatory documents, and European guidelines relevant to the field (EURACT, WFME) to extract current standards and competencies required in FM training.

The quantitative section was a standardized online survey distributed to 126 FM residents and 42 academic trainers from five Romanian medical schools (Bucharest, Cluj-Napoca, Iași, Timișoara,



and Craiova). The instrument assessed perceptions about curriculum content, pedagogic methods, digital learning environments, mentoring, and innovation barriers. The data were examined via descriptive statistics (SPSS v.25), Triangulation across data sources ensured validity and added interpretive depth.

## 4. Results and Discussions

### 4.1 Curriculum and Competency-Based Approaches

Findings from both survey of participants and documentary analysis reveal a consistent shift towards Competency-Based Medical Education (CBME) within Romanian Family Medicine (FM) residency programs. Respondents consistently acknowledged that the shift came palpable within the last five years, particularly in the modules on clinical reasoning, preventive medicine, and patient-centered communication. The areas align with global models, starting with EURACT (2011), including World Federation for Medical Education (WFME, 2020) and WONCA Europe's European Definition of General Practice/Family Medicine (2022).

<b>Educational Element</b>	<b>Percentage of Respondents (%)</b>
<b>Structured feedback on communication and decision-making</b>	78%
<b>Exposure to problem-based learning and clinical cases</b>	65%
<b>Integration of patient-centred care modules</b>	59%
<b>Reflective practice and portfolio-based learning</b>	32%
<b>Assessment via OSCEs or structured performance evaluation</b>	21%

**Table 1.** Perceived Implementation of CBME Elements in Family Medicine Training in Romania (n = 126)

The evidence suggests that competency-based reforms are being piloted incrementally into Romanian FM education (Romanian Ministry of Health, 2022). While the majority of programs have integrated new pedagogic modalities, namely PBL (problem-based learning) and formalized feedback, innovation in assessment has not been forthcoming (Băban et al., 2023).



## 4.2 Digital and Simulation-Based Learning

The integration of learning technologies into Family Medicine (FM) in Romania has gone far more quickly after the post-pandemic era. The COVID-19 pandemic was a stimulus to reassess traditional teaching habits, with universities shifting to implement online portals, virtual case discussions, and blended teaching methods.

Survey results showed that the vast majority, 84% (n = 141) of all participants (residents and trainers), welcomed online clinical case simulations, interactive webinars, and computer-based learning modules as very useful tools to develop clinical reasoning and independent learning. Participants revealed that e-learning provided more flexibility with asynchronous access to content and independent learning. Some respondents also noted that online case-based discussions helped in developing diagnostic thinking, especially where direct patient interaction was restricted.

Digital Learning Element	Percentage of Respondents (%)
Online case simulations and webinars valued as effective	84%
Access to functional simulation laboratories	43%
Use of standard e-learning platforms (Moodle, Teams, Zoom)	76%
Integration of digital assessments and feedback tools	52%
Preference for hybrid learning model (online + clinical)	68%

**Table 2.** Use and Perceived Value of Digital Learning Tools in Family Medicine Training

These findings confirm a growing digital literacy and tolerance toward e-learning among both residents and teachers.

## 4.3 Interprofessional and Community-Based Training

Interprofessional learning (IPL) and community orientation are central to Family Medicine (FM) training, facilitating teamwork, leadership, and a holistic vision for care for the patient needs within the broader context of healthcare (Frank et al., 2010). The evolution in Romania towards



team-based and community-oriented medical education is underway but disjointed and highly uneven among universities.

The survey showed that 68% (n = 114) of residents reported participating in one or more interprofessional educational activities, such as health promotion services, immunization campaigns, or community screening events hosted in conjunction with nurses, public health professionals, or pharmacists. These activities were particularly appreciated for enhancing communication between professions and increasing the level of awareness of social determinants of health.

From the trainers' perspective, IPL's benefits extend beyond collaboration. Educators observed that community-based experiences—e.g., rotations in rural environments or multidisciplinary primary care units—maximize residents' skills in empathy, adaptability, and resource management. Logistic constraints, e.g., low budget, poor field supervision, and poor coordination between academic and community organizations, typically restrict numbers and quality of these experiences.

Type of Activity or Opportunity	Percentage of Respondents (%)
Participation in interprofessional health promotion projects	68%
Access to structured interprofessional learning modules	41%
Interest in expanding IPL workshops and case discussions	52%
Community outreach or public health campaigns during residency	61%
Rural or underserved area training experiences	46%

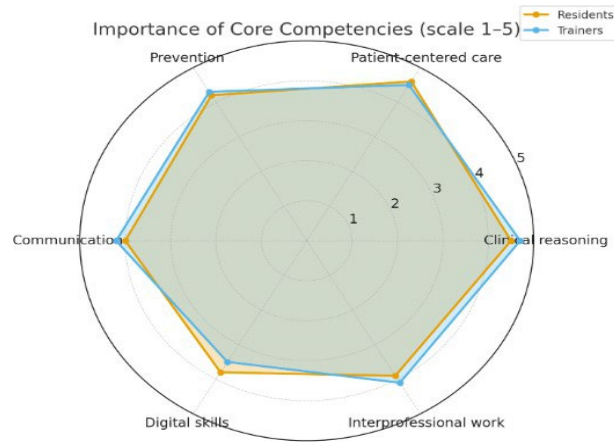
**Table 3.** Engagement in Interprofessional and Community-Based Activities among Family Medicine Residents

The evidence highlights a growing recognition of the worth of interprofessional education in FM, consistent with European and WHO policy for team-based primary care (Gruppen et al., 2022). Community projects and informal collaborations are very common, however, whereas formal interprofessional curricula are still underdeveloped at Romanian universities.

Residents and teachers together recognized that shared working and joint decision-making are critical in modern primary care, particularly for managing long-term disease and health literacy.

Yet there is a lack of regular measurement of team proficiency, interprofessional feedback systems, and organizational incentives for collaborative education.

The following radar chart is showing the Importance of Core Competencies (scale 1–5) as rated by Residents and Trainers in Family Medicine.



The graph demonstrates a uniformly high perceived importance of all core competencies among both Family Medicine Residents (orange line) and Trainers (blue line), with most ratings clustering around the maximum value of 5 or slightly below (4 to 5). This suggests a strong, consensual recognition of the broad spectrum of skills required for effective Family Medicine practice in the Romanian context (Popescu et al., 2023).

#### 4.4 Mentorship and Professional Identity

Mentorship is one of the cornerstones of Family Medicine (FM) education, spanning theoretical education and professional identity formation (Harden et al., 1999). Mentorship improves clinical competence, reflective practice, and personal development. Residents and academic teachers both acknowledged the ability of change through effective mentorship. Qualitative responses emphasized that continuous mentoring enhanced self-esteem, clinical competence, and stamina for challenging or emotional cases.

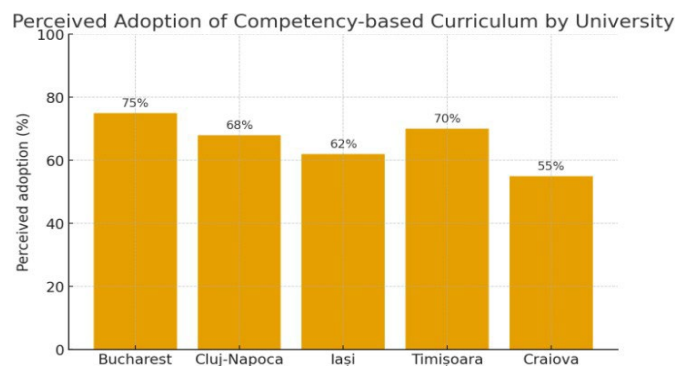
Mentorship Element	Percentage of Respondents (%)
Formally assigned mentor throughout residency	39%



<b>Occasional or informal supervision during rotations</b>	47%
<b>No consistent mentorship received</b>	14%
<b>Regular feedback and reflective discussions with mentor</b>	34%
<b>Participation in institutional mentorship programme</b>	22%

**Table 4.** Mentorship and Supervision Patterns in Family Medicine Residency Training

The next bar chart displays the perceived adoption of Competency-based curriculum (CBC) in Family Medicine education across five major university centers in Romania: Bucharest, Cluj-Napoca, Iași, Timișoara, and Craiova.



The data provides a critical snapshot of the self-reported progress in modernizing the Family Medicine residency training framework within Romania.

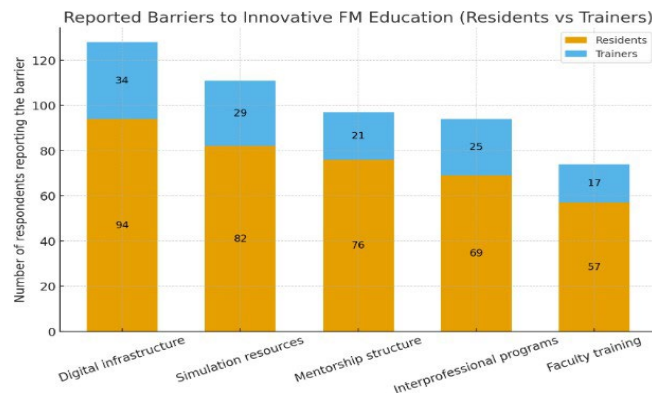
#### 4.5 Barriers and Challenges

Despite significant progress made thus far in getting Family Medicine (FM) education in Romania up to European standards, implementing innovative teaching and learning approaches (Sandars et al., 20121) continues to face massive structural and institutional challenges. Analysis of survey data, coupled with qualitative accounts of residents, as well as academic trainers, revealed a complex dynamics of intertwined constraints of resources, institution inertia, and uneven adoption of technology.

Reported Barrier	Percentage of Respondents (%)
Inadequate digital and simulation infrastructure	72%
Lack of structured mentorship and supervision	63%
Institutional inertia / resistance to pedagogical reform	58%
Time constraints for educators and trainees	54%
Insufficient training in digital and interactive teaching	49%

**Table 5.** Key Barriers to the Implementation of Innovative Educational Strategies in Family Medicine Training

The stacked bar chart illustrates the reported barriers to innovative FM education as perceived by FM residents and trainers in Romania.



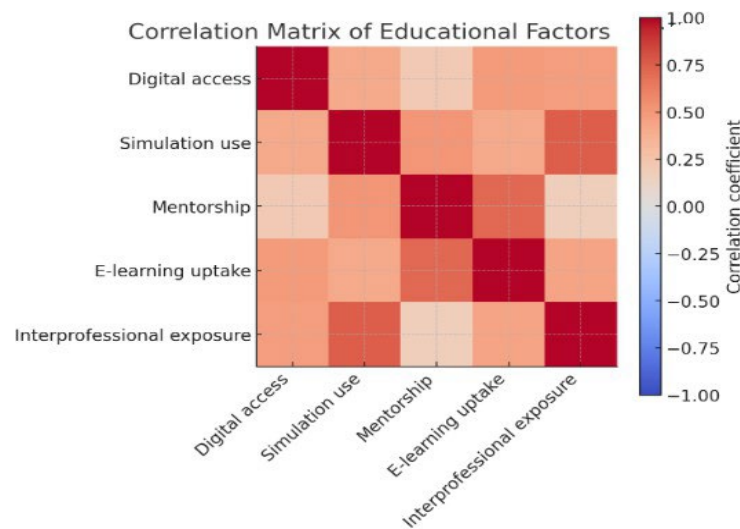
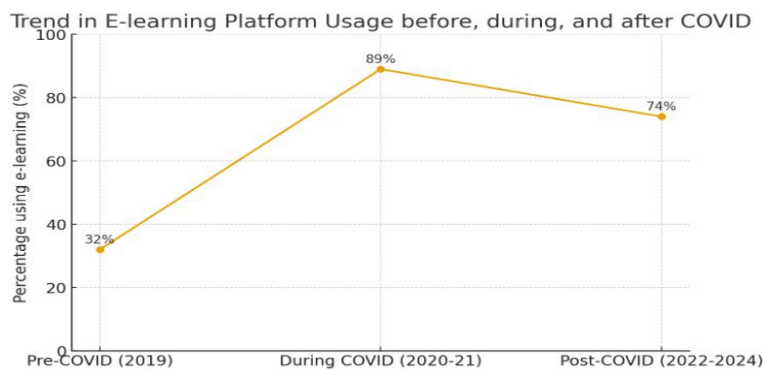
The findings confirm a progressive evolution of FM education in Romania in line with European expectations, albeit in heterogeneity of the universities. Growing integration of CBME and computer facilities is a sign of national dedication to modernisation (Dornan et al., 2019), but the sustainability of such reforms depends on adequate investment and policy consistency.

A significant majority of the responders accepted a favorable trend in CBME, especially in modules for clinical reasoning, preventive medicine, and patient-centered care. 78% of the



# Romanian International Conference for Education & Research

residents reported receiving formal feedback about communication and decision-making skills. And 65% reported seeing problem-based learning sessions and clinical case discussions. E-learning and digital technology gained huge speed post-pandemic: 84% of participants valued online clinical case simulations and webinars. However, just 43% enjoyed access to well-equipped digital simulation labs.



This heatmap displays the correlation matrix of educational factors, showing the linear relationship (correlation coefficient) between five key components of FM education.



## 5. Conclusions

Romanian Family Medicine education stands at a juncture of change. In spite of significant steps taken towards competency-oriented and technologically enabled learning, there are still disparities in infrastructure, mentorship, and integration with other professions. The profession must keep changing by way of collaborative innovation, investment in digital and human capital, and alignment with international best practices.

This article provides a comprehensive overview of the state, evolution, and challenges of Family Medicine (FM) education in Romania, emphasizing the innovative trend towards competency-based, technologically supported, and patient-centered training.

This research contributes to the growing literature on Central and Eastern European reform in medical education, offering a case study of innovation through adaptation within a transitioning system. It highlights that true educational innovation requires more than investment in technology, but rather cultural shift toward reflective, student-focused pedagogy (Ellaway et al., 2020).

In Romania, training in Family Medicine is at crossroads, sitting between the inheritance of traditional medical pedagogy and the necessities of competency-based, digitally supported, and patient-centered practice. Mentorship development, infrastructure improvement, and pedagogic innovation are the pillars for ensuring this change becomes a reality. By combining these pillars, FM education in Romania can be aligned to European standards while being responsive to local healthcare realities. It is not only a question of producing competent clinicians but also reflective, empathetic, and responsive professionals who are able to adapt to communities' changing health needs.



## References

- Băban A et al. *Digital learning and resilience in Romanian medical education post-COVID-19*. *Med Educ Online*. 2023;28(1):1234567.
- Dornan T et al. Experience-based learning: a model linking the processes and outcomes of medical students' workplace learning. *Med Educ*. 2019;53(9): pp. 877–885.
- Ellaway RH et al. Simulation in medical education: value, limitations, and future directions. *Acad Med*. 2020;95(12S):S58–S63.
- EURACT. *Definition of General Practice/Family Medicine*. 2011.
- Frank JR et al. Competency-based medical education: theory to practice. *Med Teach*. 2010;32(8): pp. 638–645.
- Gruppen LD et al. Institutional transformation in the era of competency-based education. *Acad Med*. 2022;97(3): pp. 365–371.
- Harden RM et al. *Outcome-based education: Part 1 – An introduction to outcome-based education*. *Med Teach*. 1999;21(1): pp. 7–14.
- Popescu D et al. Implementation of competency-based medical education in Eastern Europe: challenges and progress. *BMC Med Educ*. 2023;23(1):410.
- Romanian Ministry of Health. *National Curriculum for Family Medicine Residency*. 2022.
- Sandars J et al. The digital transformation of medical education: pedagogical opportunities and challenges. *Med Teach*. 2021;43(8): pp. 856–863.
- WONCA Europe. *The European Definition of General Practice / Family Medicine – Revised 2022*.
- World Federation for Medical Education (WFME). *Global Standards for Quality Improvement: Basic Medical Education*. WFME; 2020.