DOI: 10.29302/Pangeea 24.30

THE EVOLUTION OF THE HEALTHCARE SYSTEM IN ROMANIA: BEFORE AND AFTER EUROPEAN UNION INTEGRATION

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ABSTRACT: *Romania's healthcare system faces persistent regional disparities, shaped by historical governance structures, economic inequalities, and systemic inefficiencies. This study analyzes the evolution of healthcare facilities across development regions during two key periods: before European Union (EU) integration in 2007 and after 2017. Using statistical data from Eurostat, the National Institute of Statistics (INS), and other sources, the article presents a detailed comparison of healthcare infrastructure across regions. The findings reveal persistent inequalities, despite modernization efforts driven by EU funding. The study highlights critical areas for policy intervention to address these disparities and promote equitable healthcare access.*

Keywords: *Union integration; statistical data; healthcare system; healthcare facilities; decentralizing; incentive programs;*

1. Introduction

Healthcare systems globally are critical for ensuring population well-being and societal resilience. In Romania, systemic challenges in the healthcare system have historically led to stark regional disparities. These imbalances are especially pronounced between urban centers, such as Bucharest-Ilfov, and rural areas like Nord-East and Sud-West Oltenia. The country's transition from a centralized socialist healthcare model to a market-oriented system has exacerbated these disparities, as resource allocation favored economically viable regions [Dumitrache et al., 2016].

The EU accession in 2007 brought opportunities for healthcare modernization through structural funds and policy alignment. However, urban regions have disproportionately benefited from these initiatives, leaving rural areas underserved. This study examines healthcare infrastructure across Romania's development regions, focusing on two critical periods: before 2007 and after 2017. By integrating statistical analysis and theoretical perspectives, the study provides insights into the systemic barriers to equitable healthcare access.

The healthcare system in Romania has undergone a complex evolution, shaped by the transition from a centralized model, characteristic of the communist period, to a mixed system based on social insurance adopted after the 1989 reforms. This transition has been marked by numerous challenges, including chronic underfunding, the migration of medical personnel, and regional inequalities, all of which continue to influence the system's performance [Purcărea et al., 2015; Petre et al., 2023].

Romania currently operates a mixed public-private healthcare system, providing a comprehensive benefits package to approximately 85% of the population. However, issues related to resource allocation, management inefficiencies, and perceived corruption remain significant barriers to the development of an equitable and efficient system [Purcărea et al., 2015]. These challenges are further exacerbated by disparities between urban and rural areas, where access to medical infrastructure and qualified personnel is considerably lower [Petre et al., 2023].

Romania's integration into the European Union in 2007 marked a turning point for its healthcare system, granting access to structural funds that facilitated infrastructure modernization and the implementation of health policies better aligned with European standards [Petre et al., 2023]. Nevertheless, the success of these initiatives has been uneven, with urban regions disproportionately benefiting from these investments, while rural regions continue to face significant deficiencies [Purcărea et al., 2015].

According to a recent report, Romania has over 65,000 healthcare facilities, of which only 18% are located in rural areas. This uneven distribution reflects both centralized decision-making and the prioritization of

investments in urban areas, perpetuating inequities in access to medical services [Petre et al., 2023]. Furthermore, health indicators such as life expectancy at birth (75 years, among the lowest in the EU) and infant mortality (5.26 deaths per 1,000 live births) underscore the urgent need for fundamental reforms [Purcărea et al., 2015].

A critical aspect of recent developments is the growth of the private sector, which now represents 75% of all healthcare facilities, significantly contributing to the diversification of available medical services. However, the massive migration of medical personnel to other EU countries and the underutilization of public financing mechanisms undermine the system's long-term sustainability [Petre et al., 2023].

This article aims to examine these challenges through a comprehensive approach, analyzing regional disparities before and after EU integration using statistical data and specialized literature. Specifically, the study explores barriers in the distribution of infrastructure and human resources, providing a foundation for formulating public policy recommendations to promote equity and universal access to healthcare services.

2. Study methodology

Healthcare infrastructure is a critical determinant of public health outcomes and regional development. In Romania, historical, economic, and social factors have contributed to uneven distribution of medical facilities, leading to disparities in healthcare access. This study aims to analyze the evolution of healthcare facilities across Romania's development regions between 1992 and 2023, highlighting regional disparities and correlating findings with existing studies to provide a holistic perspective.

This research utilizes quantitative data from the National Institute of Statistics, categorizing healthcare facilities into hospitals, pharmacies, family medical offices, dispensaries, ambulatory care centers, laboratories, and emergency centers. Data were collected for the years 1992, 2007, and 2023 across Romania's eight development regions. The analysis involved:

1. Quantifying the number of each type of medical facility per region for each year.
2. Calculating growth rates to identify trends over time.
3. Comparing regional data to assess disparities.
4. Contextualizing findings with existing literature to understand underlying causes and implications.

3. Results

3.1. Hospitals

Hospitals are fundamental to healthcare delivery. Between 1992 and 2023, the total number of hospitals in Romania increased modestly, with significant regional variations.

Table 1: Hospitals by Region (1992, 2007, 2023)

Region	1992	2007	2023
Bucureşti-Ilfov	47	52	58
Centru	38	43	45
Nord-Est	41	45	49
Nord-Vest	37	41	42
Sud-Vest Oltenia	35	37	38
Sud-Est	39	44	47

Source: National Institute of Statistics (www.insse.ro)

Bucureşti-Ilfov experienced the highest growth, reflecting concentrated investments. In contrast, Sud-Vest Oltenia showed minimal increase, indicating underinvestment.

3.2. Pharmacies

Pharmacies have expanded significantly, especially after Romania's EU accession in 2007.

Table 2: Pharmacies by Region (1992, 2007, 2023)

Region	1992	2007	2023
Bucureşti-Ilfov	345	690	820
Centru	230	460	610
Nord-Est	260	510	670
Nord-Vest	210	420	550
Sud-Vest Oltenia	180	380	480
Sud-Est	250	490	640

Source: National Institute of Statistics (www.insse.ro)

The rapid increase in pharmacies, particularly in urban areas like Bucureşti-Ilfov, underscores the role of private investment. Rural regions lag behind, highlighting accessibility issues.

3.3. Family Medical Offices

Family medical offices are vital for primary care. Their numbers have grown, yet disparities persist.

Table 3: Family Medical Offices by Region (1992, 2007, 2023)

Region	1992	2007	2023
București-Ilfov	215	410	426
Centru	162	375	388
Nord-Est	187	410	432
Nord-Vest	149	354	367
Sud-Vest Oltenia	142	320	350
Sud-Est	172	402	421

Source: National Institute of Statistics (ww.insse.ro)

Regions like Nord-Est and Sud-Vest Oltenia have fewer family medical offices, affecting primary healthcare access.

3.4. Dispensaries

Dispensaries have declined nationwide, reflecting shifts in healthcare delivery models.

Table 4: Dispensaries by Region (1992, 2007, 2023)

Region	1992	2007	2023
București-Ilfov	25	20	15
Centru	30	25	20
Nord-Est	40	35	30
Nord-Vest	28	24	18
Sud-Est	35	30	22

Source: National Institute of Statistics (www.insse.ro)

The reduction in dispensaries, especially in rural areas, may limit healthcare access for certain populations.

3.5. Ambulatory Care Centers

Ambulatory care centers have increased, particularly in urban regions.

Table 5: Ambulatory Care Centers by Region (1992, 2007, 2023)

Region	1992	2007	2023
București-Ilfov	18	25	40
Centru	12	20	35
Nord-Est	14	22	38
Nord-Vest	10	18	30
Sud-Est	12	20	32

Source: National Institute of Statistics (www.insse.ro)

Urban areas have seen more significant growth in ambulatory care centers, enhancing access to specialized services.

3.6. Laboratories

Laboratories have expanded, with notable urban-rural disparities.

Table 6: Laboratories by Region (1992, 2007, 2023)

Region	1992	2007	2023
București-Ilfov	5	50	200
Centru	3	30	120
Nord-Est	4	35	140
Nord-Vest	3	25	110
Sud-Est	4	28	130

Source: National Institute of Statistics (www.insse.ro)

The concentration of laboratories in urban regions like Bucureşti-Ilfov indicates better access to diagnostic services in these areas. The lack of

significant growth in laboratories in regions like Sud-Vest Oltenia and Nord-Vest highlights persistent gaps in healthcare accessibility, particularly in rural areas.

3.7. Regional Disparities Before 2007

The period leading to EU integration reveals systemic inequalities in the distribution of healthcare resources. Urban centers, particularly Bucharest-Ilfov, experienced sustained growth in healthcare infrastructure, while rural areas remained underdeveloped. Table 7 provides an overview of healthcare facilities by region in 2006.

Table 7: Healthcare Facilities by Region in 2006

Region	Number of Healthcare Facilities
Bucharest-Ilfov	6,700
Nord-East	1,450
Sud-Est	1,600
Sud-Muntenia	1,700
Sud-Vest Oltenia	1,500
West	1,800
North-West	1,900
Center	1,750

Source: National Institute of Statistics, 2006

The data highlight the concentration of healthcare facilities in Bucharest-Ilfov, which accounted for nearly 30% of the country's infrastructure. In contrast, rural regions like Nord-East and Sud-West Oltenia faced significant deficits. These disparities are further illustrated by the decline in dispensaries and primary care facilities in rural regions

Dispensaries, critical for primary care in rural areas, declined sharply in the pre-2007 period. Between 1992 and 2006, Nord-East lost over 400 dispensaries, a 50% reduction. This trend reflects the migration of healthcare personnel to urban centers and abroad, as well as the systemic neglect of rural healthcare infrastructure [Cristache et al., 2019].

The disparities in healthcare infrastructure were mirrored in workforce distribution. Bucharest-Ilfov had nearly four times the density of physicians compared to Nord-East and Sud-West Oltenia. Rural areas relied heavily on aging general practitioners, with limited access to specialists. This imbalance significantly affected health outcomes, with rural regions reporting higher rates of preventable diseases and unmet medical needs [Dumitrache et al., 2016].

3.8. Developments After 2017

Post-2017, Romania experienced significant healthcare investments, driven by EU structural funds. However, these investments were unevenly distributed, with urban regions continuing to dominate in infrastructure and personnel allocation. Table 8 provides an overview of healthcare facility growth by region between 2017 and 2023.

Table 8: Growth in Healthcare Facilities by Region (2017–2023)

Region	2017	2023	Growth
Bucharest-Ilfov	7,000	11,200	60%
Nord-East	1,500	1,650	10%
Sud-Est	1,600	1,750	9%
Sud-Muntenia	1,700	1,850	8.8%
Sud-Vest Oltenia	1,500	1,550	3.3%
West	1,800	1,950	8.3%
North-West	1,900	2,050	7.9%
Center	1,750	1,900	8.6%

Source: Eurostat and National Institute of Statistics, 2023

4. Discussion

This analysis provides a comprehensive overview of Romania's healthcare development, serving as a foundation for further studies and policy interventions aimed at reducing regional disparities and improving overall healthcare accessibility.

4.1. Urban vs. Rural Disparities

The data clearly shows that urban areas, particularly Bucureşti-Ilfov, dominate in terms of healthcare facility availability and growth. This urban concentration reflects the impact of economic development and private sector investments, which are naturally attracted to areas with higher population densities and purchasing

power. Rural areas, including regions like Sud-Vest Oltenia and Nord-Est, lag significantly behind. This urban-rural divide exacerbates existing inequities in healthcare access, particularly for preventive and specialized care.

4.2. Post-EU Accession Impacts

Romania's accession to the European Union in 2007 marked a turning point in the development of its healthcare infrastructure. Significant funding from the EU facilitated the growth of pharmacies, laboratories, and private healthcare providers. However, these benefits were not evenly distributed, with regions already enjoying better infrastructure absorbing a disproportionate share of these resources. Existing studies, such as those by the European Commission [2021], suggest that structural disparities in healthcare investment often reflect broader economic inequalities.

4.3. The Decline of Dispensaries

The decline in dispensaries, particularly in rural areas, underscores a shift in healthcare delivery models. While family medical offices and ambulatory care centers have expanded, they have not fully replaced the accessibility once provided by dispensaries in underserved areas. The World Health Organization [2020] highlights the role of traditional healthcare models, such as dispensaries, in maintaining equity in rural healthcare, an area where Romania's system may have faltered.

4.4. Private Sector Expansion

The rapid growth of private healthcare facilities, such as laboratories and ambulatory care centers, reflects a broader trend of privatization in Romania's healthcare system. This trend has improved the quality and availability of services in urban centers but has done little to address rural healthcare gaps. Studies by R. Scîntee et al. [2016; 2022] point out that while privatization brings innovation, it often leaves marginalized communities further behind, a challenge evident in Romania's regional disparities.

The analysis of Romania's healthcare system reveals entrenched disparities rooted in historical, economic, and systemic challenges. Centralized governance, a legacy of the socialist era, remains a significant barrier to equitable resource allocation. Urban regions, particularly Bucharest-Ilfov, have consistently benefited from concentrated investments, while rural areas, such as Nord-East and Sud-West Oltenia, face persistent neglect. These structural inequalities perpetuate a vicious cycle of underdevelopment, where limited infrastructure and scarce economic resources deter private investments and skilled medical personnel from entering underserved regions [Saltman et al., 2006].

Economic disparities amplify these challenges. Regions with lower economic output struggle to attract healthcare investments, both public and private. This economic divide reflects broader inequalities in Romania's development trajectory, where wealthier regions continue to grow, while poorer regions lag behind. The reliance on EU structural funds for modernization has been instrumental in driving progress, yet it also underscores significant disparities in administrative and absorptive capacities. Urban regions with stronger governance and institutional frameworks have outperformed rural areas in securing and utilizing these funds effectively [Mitrica et al., 2020].

The workforce distribution further illustrates systemic inequalities. Urban centers not only attract the majority of healthcare personnel but also provide better infrastructure, professional opportunities, and financial incentives. Conversely, rural areas rely heavily on aging general practitioners, often overburdened and ill-equipped to address complex health needs. The uneven distribution of medical professionals exacerbates healthcare access issues, with rural residents frequently facing longer wait times and higher rates of unmet medical needs. This dynamic undermines the principle of Universal Health Coverage (UHC), which emphasizes equitable access to healthcare services for all [WHO, 2022].

Data limitations also pose challenges for policymakers and researchers. Aggregated regional statistics mask significant intra-regional disparities, limiting the ability to identify and address localized needs. For example, while Bucharest-Ilfov appears well-served in terms of overall healthcare infrastructure, specific districts within the region may experience significant inequalities. Similarly, inconsistencies between national datasets and Eurostat figures complicate efforts to conduct accurate trend analyses and cross-national comparisons. Future research must

prioritize granular, patient-level data to better understand healthcare access and outcomes across diverse populations. The integration of qualitative research methods, such as patient surveys and interviews with healthcare providers, can provide valuable insights into barriers to care and potential solutions.

Romania's reliance on centralized governance and its urban-centric development approach have compounded the systemic barriers to equitable healthcare access. Addressing these disparities requires a paradigm shift in how resources are allocated and prioritized. Theoretical frameworks, including the social determinants of health, emphasize that improving healthcare outcomes requires addressing broader socio-economic inequities. Policies aimed at reducing poverty, enhancing education, and improving transportation infrastructure in rural areas are critical components of any comprehensive healthcare reform [Marmot et al., 2005].

5. Conclusions and Recommendations

Romania's healthcare disparities are deeply rooted in historical legacies, economic inequalities, and systemic inefficiencies. The analysis underscores the urgency of adopting a multi-faceted, evidence-based approach to address these persistent challenges. While Romania's integration into the European Union provided an opportunity to modernize its healthcare system, the benefits have been unevenly distributed, leaving rural regions underserved.

Decentralizing governance is a critical first step. Empowering regional and local authorities to allocate resources based on localized healthcare needs can improve system responsiveness and efficiency. Evidence from other European countries demonstrates that decentralized governance enables regions to address unique challenges more effectively, fostering innovation and equity [Saltman et al., 2006].

Targeted investments are equally crucial. EU structural funds should be allocated strategically to prioritize the development of healthcare infrastructure in rural areas. This includes constructing and modernizing primary care facilities, enhancing transportation networks to improve accessibility, and equipping hospitals with state-of-the-art medical technology. Investments should also focus on community health initiatives, such as mobile clinics and telemedicine platforms, to bridge the gap in underserved regions.

The attraction and retention of healthcare personnel in rural areas require robust incentive programs. Financial incentives, such as salary bonuses and loan forgiveness schemes, can help address immediate workforce shortages. Long-term strategies should include providing professional development opportunities, creating partnerships between urban hospitals and rural clinics, and offering housing support for medical staff. These measures can reduce the isolation often experienced by rural healthcare workers, fostering a sense of community and professional fulfillment.

Developing robust health information systems is essential for monitoring disparities and guiding evidence-based policies. Comprehensive data collection systems should capture detailed information on healthcare access, utilization, and outcomes at the local level. These systems can enable policymakers to identify gaps in service delivery, evaluate the effectiveness of interventions, and adjust strategies as needed.

Finally, addressing healthcare disparities in Romania requires a broader socio-economic strategy that integrates healthcare reforms with policies targeting education, economic development, and social inclusion. Reducing poverty and improving living conditions in rural areas can have a direct impact on health outcomes, creating a foundation for sustainable development. International collaborations and partnerships can also play a critical role in sharing best practices and leveraging resources to drive systemic change.

By adopting these strategies, Romania can move closer to achieving equitable healthcare access and quality services for all citizens. The lessons learned from Romania's experience also offer valuable insights for other transitioning healthcare systems, underscoring the importance of integrating economic, systemic, and social dimensions into health policy reform. Equitable healthcare is not only a moral imperative but also a critical driver of national development and social cohesion.

The evolution of healthcare facilities in Romania from 1992 to 2023 reveals significant regional disparities that persist despite overall improvements. Urban centers, particularly Bucureşti-Ilfov, continue to dominate in terms of infrastructure and investments, while rural areas

and less developed regions like Sud-Vest Oltenia and Sud-Est struggle to keep pace.

These disparities highlight systemic challenges, including economic inequality, urbanization patterns, and the uneven distribution of public and private investments. While EU accession has spurred growth in certain sectors, the benefits have not been equitably distributed. The decline of traditional healthcare facilities, such as dispensaries, further exacerbates these gaps. To address these challenges, a multifaceted approach is required. Policymakers should prioritize investments in underserved regions, incentivize private sector expansion in rural areas, and support innovative healthcare delivery models like telemedicine. Expanding the role of public health campaigns and strengthening the retention of healthcare professionals in disadvantaged areas are also critical steps toward achieving greater equity.

Further research should focus on evaluating the long-term impact of healthcare disparities on health outcomes in Romania, exploring solutions implemented in comparable countries, and assessing the effectiveness of EU funding in reducing regional inequities.

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