

BABEȘ-BOLYAI UNIVERSITY

College of Political, Administrative and Communication Sciences Doctoral

School of Administration and Public Policies

DOCTORAL SUMMARY

**Development and Assessment of a Policy Framework and Policy Levers to
Mitigate Medical Deserts in European Healthcare Systems**

SUPERVISOR

Prof. Univ. Dr. Cătălin O. BABA

STUDENT

Monica Georgiana BRÎNZAC

Cluj-Napoca

2024

Cuprinsul lucrării:

I. ACRONYMS	7
II. EXECUTIVE SUMMARY.....	9
CHAPTER 1. INTRODUCTION	12
1.1. Medical deserts and their relevance to/for European healthcare systems.....	12
1.1.1. Medical deserts at European level.....	22
1.1.2. Consequences of medical deserts.....	28
1.2. Research problem.....	30
1.3. Thesis objectives.....	38
CHAPTER 2. LITERATURE REVIEW.....	46
2.1. Methodology.....	46
2.1.1. Protocol Development.....	46
2.1.2. Literature Search	48
2.1.3. Study Selection.....	49
2.1.4. Data Extraction.....	50
2.1.5. Quality Assessment	50
2.1.6. Data Synthesis.....	51
2.1.7. Reporting.....	52
2.2. Medical deserts within the European healthcare landscape	54
2.3. Causes and consequences of medical deserts in European countries.....	58
2.4. Policies, strategies, and initiatives implemented.	64
2.4.1 Financial incentives and workforce redistribution	64
2.4.2 Decentralization and Localized Healthcare Delivery	65
2.4.3. Infrastructure development and telemedicine.....	65
2.4.4. Research, data collection, and policy development.....	66
2.4.5. Community engagement and public-private partnerships	67
2.4.6. Cross-border initiatives and technological integration	68
2.4.7. Pharmacy integration and health literacy	69
2.4.8 A multifaceted approach to healthcare equity.....	69
CHAPTER 3. POLICY FRAMEWORK DEVELOPMENT	71
3.1. Study design	73
3.1.1. Aim and research question.....	73
3.1.2. Study methodology	74
3.2. Qualitative analysis – Expert interviews	88
3.3. Quantitative analysis - Characterization of medical deserts in primary health care.....	99
3.3.1. Determinants of Medical Desertification in Primary Health Care	109
3.4. Primary health care medical desert mitigation policies	114
3.5. Digitalization as a means to mitigate medical deserts	127
3.4.1. Digital Technologies and Telemedicine	128
3.4.2. Digital Health Literacy	130
3.6. Results - Policy framework	133
3.6.1. Key principles and objectives of the framework.....	133
3.6.2. Structure of the policy framework	137
3.7. Added value.....	148
3.8. Conclusions	151
CHAPTER 4. POLICY FRAMEWORK ASSESSMENT... ..	153

4.1. Study design	155
4.1.1. Aims and Objectives.....	156
4.1.2. Study Methodology	157
4.1.3. Study Population	160
4.2. Assessment of the policy framework	165
4.3. Results	170
4.3.1 Clarity of Objectives	170
4.3.2 Feasibility of Strategies.....	171
4.3.3 Stakeholder Engagement.....	171
4.3.4 Comprehensiveness of the Framework.....	172
4.3.5 Monitoring and Evaluation.....	172
4.3.6. Updated framework.....	173
4.4. Conclusions	193
CHAPTER 5. IMPLICATIONS FOR FUTURE RESEARCH AND POLICY	196
5.1. The contributions of the study to the field of healthcare policy and medical deserts.....	200
5.2. Long-term policy planning in changing healthcare contexts	205
5.3. Further research opportunities.....	211
5.4. Conclusion.....	216
CHAPTER 6. CONCLUSIONS.....	219
6.1. Main findings.....	222
6.2. Significance of developing effective policies to mitigate medical deserts in European healthcare systems.....	225
6.3. Broader implications for global healthcare access disparities.....	229
6.4. Final Conclusions.....	233
7. BIBLIOGRAPHY	236
8. APPENDICES	276
8.1. Interview guide used for policy framework development – policy experts.....	276
8.2. Interview guide used for policy framework development – primary healthcare practitioners	279
8.3. Informed consent form – Interviews.....	281
8.4. Codebook.....	287
8.5. Questionnaire used in the assessment process	288
8.6. Informed consent form – Assessment	295

Cuvinte cheie:

medical deserts;

policy framework;

human resources in health;

primary healthcare;

healthcare inequities;

health governance;

The doctoral thesis titled "Development and Assessment of a Policy Framework and Policy Levers to Mitigate Medical Deserts in European Healthcare Systems" begins by defining the concept of medical deserts as regions where populations face significant barriers to accessing healthcare services. These barriers can include a lack of healthcare professionals, insufficient healthcare facilities, long waiting times, high costs, and other socio-cultural challenges. The term "medical deserts" draws a parallel to "food deserts", where people have limited access to nutritious food, underscoring the critical issue of healthcare access in certain regions.

The introduction emphasizes that medical deserts are not just a localized problem but a growing concern across European healthcare systems. These deserts contribute to significant disparities in health outcomes, particularly affecting vulnerable populations such as the elderly, low-income individuals, and residents of rural areas. The chapter also highlights the research problem, which revolves around the need for effective strategies to mitigate these deserts and improve healthcare equity across Europe.

To address this issue, the thesis sets out three main objectives:

To provide a comprehensive overview of the current state of medical deserts across Europe, identifying regions with limited access to healthcare and analyzing the factors contributing to these disparities.

To create a robust policy framework aimed at reducing the prevalence and impact of medical deserts, ensuring equitable access to healthcare services for all individuals, regardless of their location.

To develop actionable policy recommendations that can be implemented at national and sub-national levels, targeting specific gaps in healthcare access and improving outcomes for underserved populations.

The introduction sets the stage for the research by outlining the significance of the problem and the need for comprehensive solutions that address both the causes and consequences of medical deserts.

Chapter 2: Literature Review

The literature review delves into the existing body of research on medical deserts, focusing on the European context. It begins by examining the factors that contribute to the formation and persistence of medical deserts, including geographic, economic, workforce, and infrastructural challenges. The chapter highlights the significant disparities between urban and rural areas, where rural populations often face greater obstacles in accessing healthcare services.

Geographic Factors

The review notes that geographic isolation is a major contributor to medical deserts. In many rural areas, low population density and poor infrastructure make it difficult to establish and maintain healthcare facilities. Additionally, long distances to healthcare providers and a lack of transportation options exacerbate the problem, leading to delays in seeking care and worsening health outcomes.

Economic Factors

Economic constraints are another significant factor. Rural and economically disadvantaged areas often struggle to attract and retain healthcare professionals due to lower salaries, fewer opportunities for career advancement, and limited resources. The review discusses various financial incentives and workforce redistribution strategies that have been implemented to address these issues, though these measures alone have often proven insufficient.

Workforce Factors

The shortage of healthcare professionals in rural areas is a critical issue highlighted in the literature. Rural areas typically have fewer doctors, nurses, and specialists, leading to gaps in service provision. The review suggests that specialized training programs and incentives are needed to prepare and retain healthcare professionals in these regions.

Infrastructural Factors

The review also addresses infrastructural limitations, noting that many rural and remote areas lack adequate healthcare facilities. The expansion of telemedicine is identified as a promising strategy to bridge the gap between urban and rural healthcare services, allowing patients in remote areas to receive consultations and care without the need for extensive travel.

Policy Strategies and Initiatives

The literature review then shifts to examine various policy strategies and initiatives that have been implemented across Europe to address medical deserts. These include financial incentives, decentralized healthcare delivery, infrastructure development, and the use of digital health technologies like telemedicine. The review critically assesses the effectiveness of these initiatives and identifies areas where further improvements are needed.

This chapter provides a comprehensive overview of the existing knowledge on medical deserts and sets the foundation for the development of a new policy framework that addresses the complex and interrelated factors contributing to healthcare access disparities in Europe.

Chapter 3: Policy Framework Development

Chapter 3 forms the crux of the thesis, presenting the development of a comprehensive policy framework designed to mitigate medical deserts in European healthcare systems. This framework is built on principles of equity, sustainability, and adaptability, aiming to ensure that all individuals, regardless of their geographic location, have access to essential healthcare services.

Theoretical Foundations and Empirical Evidence

The chapter begins by discussing the theoretical foundations and empirical evidence that underpin the framework. It draws on interdisciplinary approaches from public health, economics, sociology, and political science, integrating insights from these fields to develop a holistic understanding of medical deserts. The framework is informed by existing models such as the Health Labour Market approach, the Human Resources for Health Action Framework, and the World Health Organization's Health System Framework.

Study Design and Methodology

A significant portion of the chapter is dedicated to describing the study design and methodology used to develop the framework. The research employs a mixed-methods approach, combining qualitative insights from expert interviews with quantitative data analysis. This approach allows for a comprehensive examination of the factors contributing to medical deserts and the development of targeted interventions.

The study was designed to answer the central research question: "What policy levers and strategies can be effectively implemented to reduce the prevalence and effects of medical deserts at the primary healthcare level in European regions?" The chapter details how data was collected, analyzed, and synthesized to create a framework that addresses the unique needs of diverse European regions, particularly focusing on primary healthcare.

Key Components of the Policy Framework

The framework itself is composed of several key components, each addressing a specific aspect of the problem:

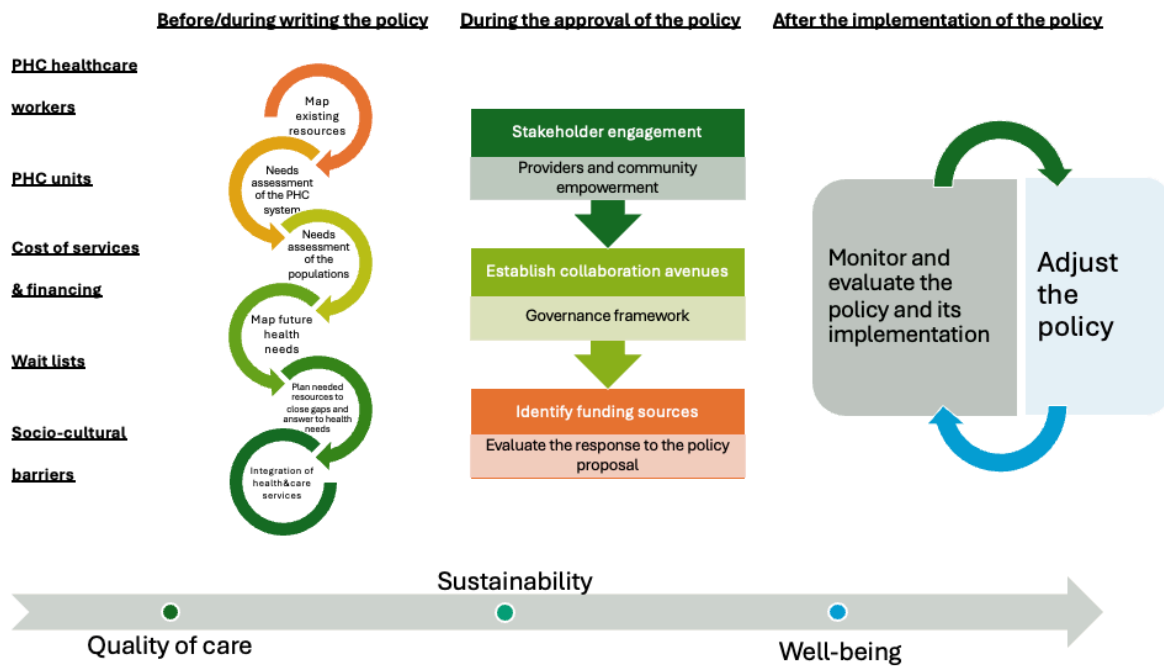


Figure 1. Initial policy framework

Financial Incentives and Workforce Redistribution: Proposes additional compensation, housing subsidies, and tax incentives to attract healthcare professionals to underserved areas. These measures are aimed at overcoming economic barriers that prevent healthcare providers from working in rural and remote regions.

Decentralization and Localized Healthcare Delivery: Emphasizes the decentralization of healthcare services, empowering local governments to tailor healthcare delivery to the specific needs of their regions. This approach allows for more responsive and customized healthcare services and is particularly effective in addressing the needs of geographically isolated populations.

Infrastructure Development and Telemedicine: Highlights the importance of developing healthcare infrastructure, including the construction of clinics and small hospitals in underserved areas. Telemedicine is also identified as a critical strategy for improving access to care in medical deserts, enabling patients in remote areas to receive consultations, diagnoses, and follow-up care without the need for extensive travel.

Community Engagement and Public-Private Partnerships: Advocates for the involvement of local communities in the development and implementation of healthcare policies. Public-private partnerships are emphasized as a mechanism for supporting healthcare delivery in rural areas, leveraging the resources and expertise of the private sector to complement public healthcare efforts.

Cross-Border Initiatives and Technological Integration: Supports cross-border healthcare initiatives that allow patients in medical deserts to access healthcare services in neighboring countries. The integration of mobile technology and health apps is also identified as a crucial strategy for providing healthcare services in medical deserts.

This chapter presents a well-structured and evidence-based policy framework designed to tackle the complex challenges of medical deserts in Europe.

Chapter 4: Policy Framework Assessment

The fourth chapter of the thesis focuses on the assessment of the policy framework developed in Chapter 3. This assessment is a crucial phase in the policy development process, ensuring that the proposed strategies effectively address the intended issues and lead to the desired outcomes.

Assessment Objectives

The chapter begins by outlining the objectives of the assessment process, emphasizing the importance of continuous monitoring and evaluation to achieve sustained improvements in healthcare accessibility and quality. The assessment is designed to evaluate several key aspects of the framework, including its clarity, feasibility, comprehensiveness, and equity.

Methodologies Used in the Assessment

The chapter details the methodologies used to assess the framework. These include surveys and interviews with healthcare professionals, policymakers, and other stakeholders, as well as

quantitative analysis of healthcare access data. The assessment also incorporates feedback from experts and stakeholders, ensuring that the framework is grounded in practical realities and is adaptable to the diverse needs of different European regions.

Key Findings from the Assessment

The assessment results indicate that the policy framework provides a robust foundation for addressing medical deserts in Europe. The emphasis on financial incentives, infrastructure development, and telemedicine is particularly effective in addressing the economic and geographical barriers to healthcare access.

However, the assessment also identifies areas that require further refinement. For example, stakeholder engagement was found to be a critical factor in the successful implementation of the framework. The assessment suggests that more comprehensive strategies are needed to ensure that all relevant stakeholders are involved in the policy development and implementation process.

Another area of improvement is the practical implementation of proposed strategies. While the framework provides a solid theoretical foundation, the assessment highlights the need for more detailed guidelines on how these strategies can be effectively implemented in different contexts.



Figure 2. Updated policy framework



Figure 3. Ensuring equitable access to primary healthcare services for all individuals, particularly in medical deserts at micro level

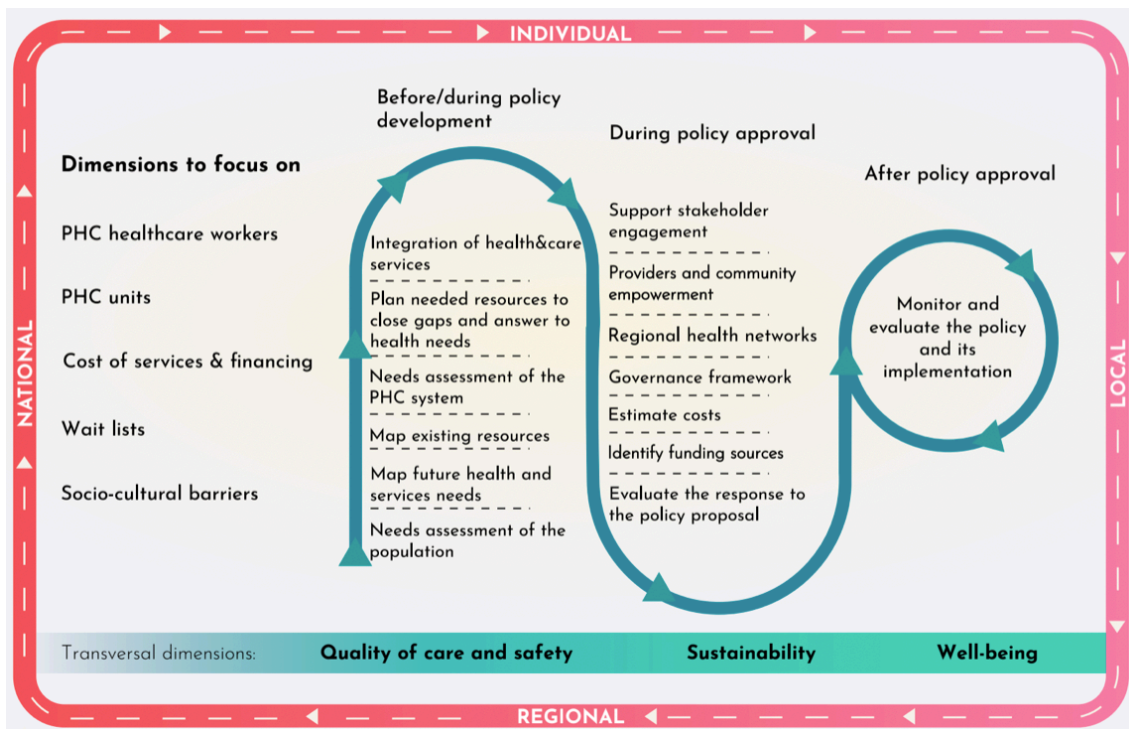


Figure 4. Ensuring equitable access to primary healthcare services for all individuals, particularly in medical deserts at meso level



Figure 5. Ensuring equitable access to primary healthcare services for all individuals, particularly in medical deserts at macro level



Figure 6. Ensuring equitable access to primary healthcare services for all individuals, particularly in medical deserts at transnational level

Recommendations for Improvement

Based on the assessment findings, the chapter offers several actionable recommendations for improving the policy framework. These include enhancing stakeholder engagement, developing more detailed implementation guidelines, and ensuring that the framework is adaptable to the changing needs of healthcare systems.

The chapter concludes by emphasizing the importance of ongoing monitoring and evaluation to ensure that the framework continues to meet the needs of underserved populations and contributes to reducing healthcare disparities across Europe.

Chapter 5: Implications for Future Research and Policy

Chapter 5 explores the broader implications of the research for healthcare policy and practice. It discusses the contributions of the study to the field of healthcare policy, particularly in the context of medical deserts, and highlights the importance of long-term policy planning in addressing the dynamic and evolving challenges of healthcare accessibility.

Contributions to Healthcare Policy

The chapter begins by summarizing the key contributions of the thesis to the field of healthcare policy. It emphasizes the significance of the developed policy framework in providing a comprehensive and actionable strategy for mitigating medical deserts. The framework addresses both the immediate challenges of healthcare access in underserved regions and the long-term need for sustainable and adaptable healthcare systems.

Long-Term Policy Planning

The chapter discusses the importance of long-term policy planning in addressing the challenges posed by medical deserts. It highlights the need for policies that are not only effective in the short term but are also sustainable and adaptable to changing circumstances.

This includes considering the potential impact of demographic changes, economic shifts, and technological advancements on healthcare access.

Future Research Directions

The chapter identifies several areas for future research, emphasizing the need for continued investigation into the effectiveness of interventions in medical deserts. Future research could explore the impact of digital health technologies, the role of cross-border healthcare initiatives, and the integration of social policies to address broader determinants of health.

The chapter also suggests that further research is needed to explore the long-term effects of the policy framework on healthcare outcomes in underserved regions. This could include longitudinal studies that track changes in healthcare access, quality, and equity over time.

Global Implications

While the focus of the thesis is on European healthcare systems, the findings have broader implications for global efforts to reduce healthcare access disparities and achieve universal health coverage. The chapter discusses how the insights gained from this research can inform global policy debates and contribute to the development of more equitable healthcare systems worldwide.

Chapter 6: Conclusions

The final chapter of the thesis synthesizes the key findings of the research and underscores the significance of developing effective policies to mitigate medical deserts in European healthcare systems. It reiterates the critical importance of equitable access to primary healthcare services and highlights the broader implications for global healthcare access disparities.

Key Findings

The chapter begins by summarizing the key findings of the research. It highlights the identification of significant barriers to healthcare access in European regions, characterized by the concept of medical deserts. The research demonstrates that these deserts are the result of a complex interplay of geographic, economic, workforce, and infrastructural factors, all of which contribute to significant disparities in healthcare access and outcomes.

The policy framework developed through this research provides a comprehensive and actionable strategy for addressing these barriers. The framework's emphasis on financial incentives, infrastructure development, and telemedicine is particularly effective in mitigating the economic and geographical barriers that contribute to medical deserts.

Broader Implications

The chapter also discusses the broader implications of the research for healthcare policy and practice. It emphasizes the importance of collaborative efforts among policymakers, healthcare providers, and communities to ensure the successful implementation of the framework. The research contributes to the broader goal of achieving a more inclusive and equitable healthcare system, ultimately improving the health and well-being of all individuals, particularly those in underserved regions.

The thesis concludes by emphasizing the need for continuous evaluation and adaptation of the policy framework to ensure its long-term effectiveness. It calls for ongoing research and policy innovation to address the evolving challenges of healthcare access in Europe and beyond. The final conclusion is that while significant progress can be made through the implementation of the proposed framework, sustained efforts and commitment from all stakeholders are essential to achieving the goal of equitable healthcare access for all.