

**Leadership Beyond the White Coat: The Critical Role of
Non-Clinical Managers in Healthcare Institutions in
Hungary**

Doctoral (PhD) Thesis

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1. Introduction

The healthcare sector is inherently complex, requiring strong and adaptive leadership to ensure the efficient delivery of high-quality, patient-centred services. Leadership is one of the core building blocks of any health system, enabling organisations to mobilise resources, implement reforms, and address governance challenges [1]. In this context, effective leadership directly influences organisational performance, service efficiency, and patient outcomes.

While much attention in healthcare leadership research focuses on clinical leaders, non-clinical managers are increasingly recognised as essential actors in ensuring operational stability and strategic direction. These professionals bring expertise in finance, logistics, human resource management, and organisational strategy, enabling hospitals to function efficiently while supporting the well-being of clinical staff. Their role is particularly critical during crises, such as the COVID-19 pandemic, when they implement targeted interventions to mitigate burnout, maintain resilience, and safeguard service continuity [2].

Hungary's healthcare system has undergone significant reforms since the early 1990s, transitioning from a district doctor model to a general practitioner-based primary care system, and more recently centralising hospital ownership to improve management oversight [3-5]. Despite these changes, the sector continues to face challenges, including workforce shortages, financial constraints, and uneven efficiency improvements. Public hospitals remain the backbone of healthcare provision, but a growing private sector, driven by patient demand for shorter wait times and modern facilities, has introduced new dynamics to service delivery.

Financing remains a central challenge. In 2021, Hungary allocated 7.4% of its GDP to healthcare, well below the EU average of 11%, with high out-of-pocket spending (25%) placing financial strain on households [6]. Although public financing has increased modestly, it remains insufficient to fully address infrastructure gaps and workforce needs.

In parallel, Hungary's educational pipeline for healthcare managers is expanding. Institutions such as Semmelweis University and the University of Debrecen offer undergraduate and postgraduate programmes in health services management, often incorporating international partnerships, internships, and online learning options [7]. These programmes are steadily supplying trained non-clinical managers to the system, though absolute numbers remain limited compared to other European countries.

This dissertation examines the evolving role of non-clinical managers within Hungary's hospital system, exploring their contributions to efficiency, quality, and resilience in healthcare

delivery. By analysing sectoral data, educational trends, and hospital organisational structures, it assesses both the potential and the current limitations of non-clinical management in the Hungarian context. The study contributes to the growing European discourse on professionalising hospital leadership and separating operational oversight from clinical decision-making, while recognising the structural and cultural factors that shape its adoption in Hungary.

2. Scientific objectives, problem definition, hypotheses

In Hungary, the contribution of non-clinical managers to healthcare delivery remains underexplored. While European health systems increasingly professionalise hospital management, Hungarian research and policy still focus primarily on clinical leadership. Non-clinical managers, who are responsible for strategic planning, financial oversight, resource allocation, and human resource management, play a key role in operational efficiency, quality of care, and staff morale. Yet, their exact impact, training needs, and institutional differences are poorly documented. This gap limits the development of evidence-based policies, targeted training programmes, and organisational strategies that could enhance healthcare performance.

Based on the research problem and questions, I formulate the following hypotheses:

- I hypothesize that non-clinical managers make a measurable, positive contribution to the effectiveness, efficiency, and quality of healthcare delivery in Hungary.
- I hypothesize that the quality of healthcare outcomes, including patient satisfaction and operational efficiency, is significantly influenced by the practices and decisions of non-clinical managers.
- I hypothesize that organisational performance is higher in institutions where non-clinical managers receive structured training in management and leadership competencies.
- I hypothesize that the challenges faced by non-clinical managers can be mitigated through targeted professional development, supportive organisational policies, and collaborative leadership practices.
- I hypothesize that differences exist in the effectiveness of non-clinical management between public and private healthcare institutions in Hungary.

3. Research methodology

In order to meet the research objectives, the following research methods will be used:

- Literature and legislation review, involving the study and analysis of relevant international and national documents, academic literature, policy papers, and Hungarian healthcare regulations relating to management and governance.
- General scientific methods, including comparison and generalisation, to identify patterns, similarities, and differences in the roles, responsibilities, and impacts of non-clinical managers across various institutional contexts.
- Analytical-logical methods, applied to assess the current organisational, policy, and regulatory environment affecting non-clinical management in Hungary.
- Systematic literature review process, following established protocols to identify, select, and synthesise scholarly works on healthcare management, with a focus on non-clinical leadership roles.
- Empirical analysis through a mixed-methods approach, combining quantitative survey data with qualitative interviews to obtain both breadth and depth of insight into the contributions and challenges of non-clinical managers.
- Secondary data analysis, using statistical and operational performance data from healthcare institutions to assess the relationship between managerial practices and healthcare outcomes.
- Comparative analysis of Hungarian non-clinical management practices with those in selected OECD countries, drawing on published studies and reports.

4. Literature review

The quantitative data analysis is complemented by a systematic literature review of peer-reviewed studies on hospital administration, healthcare governance, and the strategic roles of non-clinical staff. This qualitative evidence base informs the comparative analysis and contextualises the statistical findings.

The review followed a structured process:

- Databases searched: PubMed, Scopus, Web of Science.
- Keywords: “non-clinical leadership,” “healthcare management,” “hospital administration,” “healthcare performance.”
- Inclusion criteria: Studies addressing non-clinical leadership roles in healthcare (e.g., hospital administrators, financial and HR managers).
- Exclusion criteria: Research focusing solely on clinical leadership.
- Screening process: Title and abstract review, followed by full-text assessment.

By combining secondary quantitative data with a rigorous literature review, this study ensures methodological transparency, replicability, and credibility while leveraging existing high-quality evidence.

5. Data analysis

This study draws on secondary data sources and a systematic literature review to examine non-clinical leadership in healthcare. Quantitative evidence is sourced from reputable organisations, including the OECD, WHO, Eurostat, NHS Digital (UK), and Hungary-specific providers such as the Hungarian Central Statistical Office and the National Health Insurance Fund. These datasets offer key performance indicators, staffing profiles, and healthcare system metrics.

A structured case selection process was applied to the literature, focusing on well-documented examples of non-clinical leadership across diverse organisational contexts. Criteria included:

- Organisational type: public, private, or mixed healthcare systems.
- Leadership model: centralised versus decentralised structures.
- Geographical scope: Hungary and comparable European countries.

This diversified sampling ensured a broad comparative analysis of leadership practices and their impact on efficiency, quality, and healthcare outcomes, providing both national and cross-country perspectives.

6. New findings

This study examined the roles, distribution, and impact of non-clinical managers in Hungarian hospitals, situating the analysis within a broader European context. The results confirm that non-clinical leadership offers distinctive advantages for healthcare performance, particularly when supported by formal managerial training, but remains less prevalent and institutionalised in Hungary than in many other European countries.

In Hungary, non-clinical managers are present at various levels of hospital governance, yet no official headcount data exist. Evidence from hospital bylaws and enrolment in Semmelweis University's *Egészségügyi menedzser* MSc indicates a steady supply of qualified professionals entering the sector. Their presence is most pronounced in large tertiary and urban hospitals, where leaders often hold qualifications in economics, public policy, or health administration. Smaller regional hospitals more frequently rely on clinician-managers or hybrid roles. This uneven distribution reflects differences in institutional capacity, resources, and policy priorities.

The advantages of non-clinical leadership identified in this research include:

- Stronger financial oversight, including improved budget control, procurement, and cost efficiency.
- Enhanced operational efficiency through optimised staffing, workflow automation, and resource allocation.
- More strategic, policy-aligned planning and readiness to adapt to reforms.
- Greater emphasis on accountability and performance measurement, with structured use of KPIs and reporting standards.

European comparison shows that the role and effectiveness of non-clinical managers are shaped by system structure, cultural attitudes, and capacity for data-informed decision-making. In decentralised or insurer-based systems (e.g., Germany, the Netherlands), non-clinical leaders enjoy greater autonomy, contributing to innovation and efficiency. In centralised, physician-dominated systems (e.g., Italy, France), their scope is often more constrained. Countries like

the UK, with established leadership pathways and training programmes, demonstrate higher acceptance and integration of non-clinical professionals into executive hospital roles.

The findings highlight that Hungary has a clear and growing place for non-clinical management, but its institutionalisation lags behind countries with well-developed professional management cultures. Strengthening this leadership model will require targeted training, supportive policies, and cultural acceptance to fully leverage its potential for improving efficiency, quality, and responsiveness in healthcare delivery.

7. Further research directions

The findings of this study highlight both the potential and the current limitations of non-clinical leadership in Hungarian healthcare institutions. While secondary data and literature analysis demonstrate that non-clinical managers can positively influence operational efficiency, financial stewardship, and staff well-being, the absence of national-level headcount data and outcome tracking significantly constrains evidence-based policymaking.

Future research could address these gaps through the following directions:

1. National-Level Quantification of Non-Clinical Managers

- Establish comprehensive datasets on the number, qualifications, and distribution of non-clinical managers across public and private healthcare institutions in Hungary.
- Link these datasets with institutional performance indicators to assess the correlation between leadership composition and hospital outcomes.

2. Longitudinal Outcome Analysis

- Conduct multi-year studies tracking the impact of non-clinical leadership on financial stability, patient satisfaction, waiting times, and staff retention.
- Compare changes over time between hospitals with predominantly clinical versus non-clinical leadership structures.

3. Comparative European Benchmarking

- Benchmark Hungarian hospitals against European counterparts where non-clinical management is more institutionalized (e.g., UK, Germany, Netherlands).

- Analyse structural, cultural, and policy differences to identify adaptable best practices.

4. Impact Evaluation of Leadership Training

- Assess the outcomes of structured leadership and management training programmes (e.g., MSc in Health Services Management at Semmelweis University) on hospital efficiency, quality of care, and governance transparency.
- Explore whether hospitals employing trained non-clinical managers outperform those without such expertise.

5. Mixed-Methods Case Studies

- Conduct in-depth qualitative research in selected hospitals to capture the lived experiences of non-clinical managers, their interactions with clinical leaders, and barriers to implementing change.
- Integrate these qualitative findings with performance data for a holistic understanding of leadership impact.

6. Policy Simulation and Modelling

- Use health system modelling tools to simulate the potential outcomes of increased non-clinical management adoption, including projected cost savings, patient throughput, and staff satisfaction.

By expanding the evidence base through these avenues, future research can provide robust guidance for policymakers and healthcare executives. Strengthening the analytical link between non-clinical leadership presence and measurable healthcare outcomes will be essential for embedding these roles more firmly within Hungary's hospital governance structures.

7. Own Publications

Evelin Trembeczki, Manuela Tvaronaviciene, János Besenyő, PhD, István Kobilka, PhD: *Effects of the COVID-19 Crisis on Work-Life Balance, Mental Health, and Perceived Health Status Among Hungarian Defense Employees: A Cross-Sectional Study*, Journal of Business Economics and Management, ISSN 1611-1699 (2024)

Category: Q2 journal in both “Business, Management and Accounting (miscellaneous)” and “Economics and Econometrics”; Impact Factor: 2.5 (2023), CiteScore: 5.8 (2023), SJR: 0.568. Indexed in Web of Science and Scopus; peer-reviewed and internationally recognized journal published by Vilnius Gediminas Technical University.

Evelin Trembeczki: *Culture in Healthcare Institutions: Role of the Institutional Leader*, Einnováció, Volume 1, Issue 1, ISSN 2939-7677 (2023)

Category: National-level Hungarian professional journal published by HM Elektronikai, Logisztikai és Vagyonkezelő Zrt, internal editorial review

Evelin Trembeczki: *The Importance of Diversity in Healthcare Institution Leadership*, Einnováció, Volume 1, Issue 2, ISSN 2939-7677 (2023)

Category: National-level Hungarian professional journal published by HM Elektronikai, Logisztikai és Vagyonkezelő Zrt, internal editorial review

Evelin Trembeczki, Dr. István Kobilka: *The Future of Leadership in Healthcare Institutions*, Einnováció (English Edition), Volume 2, Issue 2, ISSN 2939-7677 (2024)

Category: National-level Hungarian professional journal published by HM Elektronikai, Logisztikai és Vagyonkezelő Zrt, internal editorial review

Evelin Trembeczki, Dr. István Kobilka: *Systematic Review of Clinical and Non-Clinical Leadership Effectiveness in Diverse Healthcare Settings (2010-2022)*, Einnováció, Volume II, Issues 3–4, ISSN 2939-7677 (2024)

Category: National-level Hungarian professional journal published by HM Elektronikai, Logisztikai és Vagyonkezelő Zrt, internal editorial review

Evelin Trembeczki, Dr. István Kobilka: *Bridging the Gap: Interdisciplinary Management Models for Effective Healthcare Management*, Einnováció, Volume 3, Issue 1, ISSN 2939-7677 (2025)

Category: National-level Hungarian professional journal published by HM Elektronikai, Logisztikai és Vagyonkezelő Zrt, internal editorial review

Evelin Trembeczki, István Kobolka PhD: *The Importance of Collaborative Management and Leadership at Healthcare Institutions*, American Journal of Research, Education and Development, Volume 2022, Issue 4, ISSN 2471-9986 (2022)

Category: Open-access international journal; registered with the U.S. ISSN Center, peer-reviewed, falls under MTA Healthcare Management Committee (national academic relevance).

8. Conferences, presentations, active research jobs

- Amman, Jordan. 20th October, 2021 – Comparative Analysis of the Dutch and Hungarian Healthcare Systems
- IDEB 2022, Bratislava. 9th May, 2022 – Healthcare Systems Analysis in Europe
- Nairobi, Kenya, University of Kenya 6th March, 2023 – Hospitality in Healthcare
- PTE ÁOK Institute of Public Health, from 15th October 2024 till currently – Research Assistant

9. List of references

1. Teame K, Debie A, Tullu M. Healthcare leadership effectiveness among managers in Public Health institutions of Addis Ababa, Central Ethiopia: a mixed methods study. BMC Health Serv Res. 2022;22(1):540. Epub 20220422. doi: 10.1186/s12913-022-07879-6. PubMed PMID: 35459173; PubMed Central PMCID: PMC9034590.
2. Chandra A, Sodani PR. Role of Non-Clinical Human Resources for COVID-19: Strategic Way Forward. Journal of Health Management. 2020;22(4):541-9. doi: 10.1177/0972063421991236.
3. Gaal P, Szigeti S, Csere M, Gaskins M, Panteli D. Hungary health system review. Health Syst Transit. 2011;13(5):1-266. PubMed PMID: 22394651.
4. Gaál P, Szigeti S, Panteli D, Gaskins M, van Ginneken E. Major challenges ahead for Hungarian healthcare. Bmj. 2011;343:d7657. Epub 20111207. doi: 10.1136/bmj.d7657. PubMed PMID: 22162289.
5. Gaal P, Velkey Z, Szerencses V, Webb E. The 2020 reform of the employment status of Hungarian health workers: Will it eliminate informal payments and separate the public

- and private sectors from each other? *Health Policy*. 2021;125(7):833-40. Epub 20210504. doi: 10.1016/j.healthpol.2021.04.014. PubMed PMID: 34030886.
6. WorldBankGroup. Current health expenditure (% of GDP) – European Union, Hungary. [15.06.2025]. Available from: <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?contextual=default&locations=EU-HU>.
 7. Semmelweis. Egészségügyi menedzser (EMSc) 2025 [01.08.2025]. Available from: <https://semmelweis.hu/emk/oktatas/mesterkepzes/egeszsegugyi-menedzser-msc/>.