

University of Sopron
Alexandre Lamfalussy Faculty of Economics

**OUTPATIENT STATUTORY MEDICAL CARE IN
GERMANY: DETERMINANTS OF THE CHOICE
BETWEEN DIFFERENT PRACTICE TYPES**

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Patricia Carola Merten

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Doctoral School: Széchenyi István Economics and
Management Doctoral School

Head of the Doctoral School:

Prof. Dr. Csilla Obádovics

Programme: Doctoral Dissertation (PhD)

Supervisor(s): Bazsóné Dr. Laura Bertalan
Prof. Dr. Volker Lombeck

Approval signature of supervisor(s)

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1 BACKGROUND OF THE RESEARCH

Outpatient statutory healthcare constitutes a central pillar of the German healthcare system and provides the majority of medical care outside the inpatient sector. In 2024, a total of 189,551 physicians, psychotherapists, and psychological psychotherapists participated in outpatient statutory healthcare and delivered approximately 575.7 million outpatient treatment cases (Kassenärztliche Bundesvereinigung, 2025).

Demographic change, the increasing prevalence of chronic diseases, and the growing shift of medical services from inpatient to outpatient care have led to a continuously increasing demand for efficient and patient-centred outpatient healthcare (Bundesministerium für Gesundheit, 2026). At the same time, outpatient statutory healthcare in Germany is undergoing a continuous structural transformation. Alongside the traditional solo practice, cooperative organisational forms such as group practices (Berufsausübungsgemeinschaften, BAGs) and medical care centres (Medizinische Versorgungszentren, MVZ) are becoming increasingly important.

National and international research consistently demonstrates that the choice of healthcare providers is influenced by the interaction of individual preferences, structural conditions, and quality-related characteristics (Lin et al., 2024).

To date, only a limited number of empirical studies in Germany have explicitly examined patients' choice between different types of outpatient practice. Existing research has primarily focused on general

physician choice, the use of digital information sources, or preferences regarding specific quality characteristics of healthcare delivery (Emmert & McLennan, 2021; Mühlbacher et al., 2013). International reviews identify trust, communication, continuity of care, accessibility, and waiting times as key determinants of patients' healthcare choices (Pratiwi et al., 2023). Furthermore, qualitative studies indicate that personal experiences and the perceived professional competence of treating physicians substantially influence patients' choice of healthcare providers (Leach et al., 2018). However, the factors influencing patients' decisions between solo practices, group practices and medical care centres have received only limited empirical attention. This represents a research gap that the present dissertation seeks to address.

Against the background of the ongoing structural transformation of outpatient statutory healthcare, there is both a scientific and health policy need to systematically investigate the determinants of patients' choice of practice type. A deeper understanding of these decision-making processes may contribute to aligning outpatient healthcare structures more closely with patients' needs and to supporting evidence-based health policy decisions.

The aim of the present dissertation is therefore to investigate the determinants of patients' choice between solo practices, group practices and medical care centres. To address the research questions, quantita-

tive and qualitative research methods are combined within an explanatory sequential mixed-methods approach in order to analyse both statistical relationships and the underlying decision-making processes.

2 RESEARCH QUESTIONS AND THEORETICAL FRAMEWORK

2.1 Research questions and hypotheses

Based on the identified research gap, the present dissertation investigates the determinants of patients' choice between solo practices, group practices, and medical care centres and classifies their significance for outpatient statutory healthcare from a scientific perspective. Based on the research objective, the research questions and alternative hypotheses presented in Table 1 were formulated.

Table 1: Research questions and alternative hypotheses

Research question (F ₁ -F ₅)	Alternative hypothesis (H ₁ - H ₅)
F ₁ = To what extent is there an association between patients' age and the choice of practice type?	H ₁ = There is an association between patients' age and the choice of practice type.
F ₂ = To what extent is there an association between patients' place of residence and the choice of practice type?	H ₂ = There is an association between patients' place of residence and the choice of practice type.
F ₃ = To what extent is there an association between the use of information and recommendation sources (social environment or physician recommendation) and the choice of practice type?	H ₃ = There is an association between the use of information and recommendation sources and the choice of practice type.
F ₄ = To what extent does patient satisfaction with the medical treatment following the consultation differ between the different practice types?	H ₄ = Patient satisfaction with the medical treatment following the consultation differs according to the practice type.

F₅ = Which practice type do patients prefer in the case of a hypothetical serious illness?

H₅ = There is an association between the preference for a particular practice type in the case of a hypothetical serious illness and the choice of practice type.

Source: Author's own compilation

The research questions and hypotheses form the basis of the empirical investigation.

2.2 Theoretical framework

To provide a theoretical framework for patients' choice of practice type, the Behavioral Model of Health Services Use developed by Andersen is applied. The model is one of the established approaches for explaining the utilisation of healthcare services and assumes that healthcare utilisation is not determined solely by objective medical need. Rather, healthcare utilisation results from the interaction of predisposing characteristics, enabling resources, and need-related factors (Andersen, 1995).

The model is particularly suitable for the present study because it integrates individual, structural, and healthcare-related determinants within a common theoretical framework. Predisposing factors include, for example, age, sex, and health-related attitudes. Enabling factors describe access to healthcare, information and recommendation sources, as well as the availability of different organisational forms. Need-related factors refer to both the subjectively perceived and objectively assessed health status (Andersen, 1995).

The organisational forms of outpatient statutory healthcare can therefore be understood as structural conditions that influence both access to healthcare services and patients' choice of practice type. Consequently, the Andersen model provides a systematic framework for classifying the determinants examined in this dissertation and serves as the theoretical basis for the empirical analysis.

3 METHODOLOGICAL APPROACH

3.1 Research design

To address the research questions, a mixed-methods approach was adopted, combining a triangulation design with elements of an explanatory sequential design. Quantitative data were collected and analysed first. Based on these findings, a qualitative investigation was conducted using semi-structured interviews to further explore and explain the statistical results. Combining both methodological approaches made it possible to integrate different perspectives and to validate the findings through methodological triangulation (Baur & Blasius, 2022; Mayring, 2023).

3.2 Quantitative and qualitative investigation

The quantitative investigation is based on a standardised online survey of a convenience sample comprising 1,010 adult patients who had consulted at least one medical specialist outside primary care within the previous ten years. Participants were recruited online according to predefined inclusion and exclusion criteria. Although online recruitment enabled the inclusion of a large and heterogeneous sample from

different age groups and regions of Germany, it limits the generalisability of the findings.

Statistical analyses were performed using RStudio. First, the sample was described using descriptive statistics. Chi-square tests of independence were then conducted to examine bivariate associations between patient-related determinants and the choice of practice type. Effect sizes were assessed using Cramér's V and Cohen's w. In addition, a multinomial logistic regression analysis was performed to examine the independent contribution of multiple variables simultaneously.

To deepen and contextualise the quantitative findings, 20 semi-structured problem-centred interviews were conducted. The qualitative sample was recruited using purposive sampling. Participants were selected according to predefined theoretical criteria using the top-down approach applied in this study. Within this sampling strategy, participants were selected as typical cases (typical case sampling) (Patton, 2015). All interview participants had experience with solo practices, group practices, and medical care centres, enabling them to compare these organisational forms based on their own healthcare experiences. The qualitative data were analysed using Mayring's qualitative content analysis (2023) with the software MAXQDA. The aim of the qualitative investigation was to deepen the quantitative findings and to identify additional patient-related determinants influencing the choice of practice type.

3.3 Triangulated integration

The final interpretation was based on the systematic triangulation of the quantitative and qualitative findings. This approach made it possible to integrate statistical associations with individual decision-making processes, to validate the findings across methods, and to place them within a broader theoretical framework.

4 KEY SCIENTIFIC FINDINGS

4.1 Quantitative findings

The quantitative investigation tested five hypotheses regarding patient-related determinants influencing the choice of outpatient practice types. Three of the five hypotheses were confirmed. While age and place of residence showed no statistically significant association with the choice of practice type, significant associations were identified for the use of information and recommendation sources, patient satisfaction following the medical consultation, and the preference for a particular practice type in the case of a hypothetical serious illness.

Table 2: Summary of the hypothesis testing results

Hypothesis	Subject of investigation	Result
H ₁	Age	Not confirmed
H ₂	Place of residence	Not confirmed
H ₃	Information and recommendation sources	Confirmed
H ₄	Patient satisfaction following the medical consultation	Confirmed
H ₅	Preference in the case of a hypothetical serious illness	Confirmed

Source: Author's own compilation

Information and recommendation sources (H₃)

A statistically significant association was found between the information or recommendation source used and the choice of practice type ($\chi^2 = 42.49$; $p < 0.001$; Cramér's $V = 0.118$). Although the effect size was small, the findings indicate that information and access pathways differ between practice types.

While solo practices and group practices were more frequently chosen based on personal recommendations or referrals from primary care physicians, recommendations originating from the hospital setting played a comparatively greater role in the choice of medical care centres. These findings demonstrate that different information and recommendation sources influence the choice of practice type.

Patient satisfaction (H₄)

A statistically significant association was also found between the practice type attended and patient satisfaction ($\chi^2 = 34.95$; $p = 0.003$; Cramér's $V = 0.107$). The effect size was small.

Overall, a high level of patient satisfaction was observed across all practice types. Despite the statistically significant association, the differences between the practice types remained small.

Preference in the case of a hypothetical serious illness (H₅)

The strongest statistical association identified in the study was found for the choice of practice type in the case of a hypothetical serious illness ($\chi^2 = 84.25$; $p < 0.001$; Cohen's $w = 0.29$). This association showed the largest effect size observed in the study.

Almost half of the respondents ($n = 474$) chose a medical care centre in this scenario, whereas 274 respondents preferred a group practice and 262 a solo practice. These findings indicate that coordinated and interdisciplinary models of care are particularly preferred in the context of complex or severe illnesses.

Furthermore, specialty-specific differences in preferred practice types were observed. While medical care centres were chosen more frequently than expected in oncology and radiology, group practices were preferred more often in cardiology and dermatology, whereas solo practices were most frequently preferred in gynaecology. These findings highlight the influence of specialty-specific healthcare requirements on the choice of practice type.

4.2 Qualitative elaboration of the findings

The qualitative analysis confirmed and further elaborated the quantitative findings. Interview participants primarily associated medical care centres with improved interdisciplinary collaboration, more comprehensive diagnostic facilities, and greater continuity of care for patients with complex illnesses. Group practices were evaluated positively, particularly because of the collaboration between several physicians and greater appointment availability. In contrast, solo practices were associated with continuity of care, trust, and long-term physician-patient relationships.

The findings indicate that the choice of practice type is influenced less by structural characteristics alone than by patients' individual expectations regarding quality of care, continuity, and the organisation of healthcare services.

4.3 Integration of the findings

The integration of the quantitative and qualitative findings demonstrates that patients' preferences for outpatient practice types are shaped by the interaction between individual expectations and structural characteristics of healthcare delivery. While age and place of residence showed no significant influence on the choice of practice type, information and recommendation sources, perceived quality of care, and the perceived severity of illness emerged as key determinants. The qualitative analysis further demonstrates that organisational characteristics gain importance primarily through their interaction with trust, continuity of care, and a high-quality physician–patient relationship.

The Behavioral Model of Health Services Use proved to be an appropriate theoretical framework for interpreting these decision-making processes.

5 SCIENTIFIC CONTRIBUTION

The present dissertation makes original contributions to health services research and extends the existing body of knowledge on patients' choice of outpatient practice types within outpatient statutory healthcare in Germany. While previous studies have primarily focused on the choice of individual physicians, healthcare institutions, or general determinants of healthcare utilisation, the present study focuses on the choice between solo practices, group practices, and medical care centres. By combining quantitative and qualitative research methods, both statistically verifiable associations and subjective decision-making processes were systematically analysed and integrated. The empirical findings give rise to the following scientific contributions:

1. Limited importance of traditional sociodemographic characteristics

The findings show that age and place of residence are not statistically significantly associated with the choice of practice type. Instead, patients' decision-making processes are influenced more strongly by perceived characteristics of healthcare delivery than by traditional sociodemographic factors. Consequently, the dissertation challenges previous assumptions regarding the importance of

demographic determinants and highlights the relevance of healthcare-related decision factors.

2. Different roles of information and recommendation sources

The findings demonstrate that information and recommendation pathways differ according to the practice type. While solo practices and group practices are predominantly chosen based on personal recommendations from the social environment or physician referrals, medical care centres are more frequently selected on the basis of digital information sources or recommendations originating from the hospital setting. Thus, the study extends the existing knowledge on access pathways within outpatient healthcare.

3. Influence of the perceived severity of illness on the choice of practice type

A key finding of the dissertation is that patients prefer medical care centres in the case of a hypothetical serious illness. Medical care centres are particularly associated with interdisciplinary collaboration, diagnostic capabilities, and organisational coordination, whereas solo practices and group practices are preferred primarily in less complex healthcare situations. These findings demonstrate that the perceived complexity of healthcare needs has a substantial influence on the choice of practice type.

4. Primacy of the physician-patient relationship over the organisational form

The qualitative findings emphasise that trust, empathy, continuity of care, and the quality of the physician–patient relationship have

a greater influence on patients' perception of outpatient healthcare than the organisational form of the practice. From the patients' perspective, the practice type primarily provides the organisational framework for healthcare delivery, whereas the perceived quality of treatment is attributed primarily to the treating physician. Consequently, the findings indicate that organisational structures can support, but cannot replace, the physician–patient relationship.

Overall, the findings demonstrate that the choice of outpatient practice type represents a complex and multidimensional decision-making process shaped by the interaction of patient-related, situational, and healthcare structural factors. The empirical findings confirm the suitability of Andersen's Behavioral Model of Health Services Use for explaining the choice of practice type and extend its application to the choice between different organisational forms in outpatient healthcare. The dissertation therefore contributes to the further development of health services research while simultaneously providing a scientific foundation for future research and for the patient-centred development of outpatient healthcare structures.

6 RECOMMENDATIONS AND FUTURE RESEARCH

Based on the findings of the dissertation, the following recommendations can be derived for the further development of outpatient statutory healthcare:

1. Health policy decisions should give greater consideration to the different strengths of solo practices, group practices, and medical care

centres. The findings demonstrate that these organisational forms address different healthcare needs and complement one another. Consequently, a sustainable outpatient healthcare system should be based on a balanced coexistence of different practice types.

2. Patient-centred characteristics of healthcare delivery should receive greater attention in health policy decision-making. Trust, continuity of care, accessibility, interdisciplinary collaboration, and diagnostic capabilities are more important for the choice of practice type than the organisational structure of the practice itself.
3. The transparency of outpatient healthcare services should be further improved. As information and recommendation sources have a substantial influence on the choice of practice type, patients should have easy access to comprehensible, independent, and quality-assured information. In particular, digital information services can support informed decision-making.
4. Interdisciplinary and cross-sectoral collaboration should be further strengthened. Particularly in the management of complex or chronic diseases, coordinated models of care can contribute to improving treatment pathways and preventing fragmentation of care.

The findings of the dissertation also provide starting points for future research.

Future studies should validate the identified determinants using nationwide samples that are as representative as possible. Furthermore, longitudinal studies appear appropriate for analysing changes in pati-

ents' preferences in the context of health policy reforms and the ongoing shift towards outpatient healthcare. Future research should also give greater consideration to the perspective of healthcare providers. Including medical, organisational, and economic determinants could contribute to a more comprehensive understanding of the interactions between the supply and demand sides of outpatient healthcare.

Furthermore, future research should investigate the influence of digital information and access pathways, such as digital appointment scheduling systems and the electronic patient record, on patients' decision-making processes.

Overall, the findings demonstrate that the choice of outpatient practice type should be understood as a complex decision-making process influenced equally by individual preferences, subjective experiences, and structural characteristics of healthcare delivery. Future research should address this complexity through interdisciplinary research approaches that integrate perspectives from health sciences, health economics, and health sociology.

References

- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, 36(1), 1. <https://doi.org/10.2307/2137284> (Retrieved July 18, 2026).
- Baur, N., & Blasius, J. (Hrsg.). (2022). *Handbuch Methoden der empirischen Sozialforschung*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-37985-8> (Retrieved July 18, 2026).
- Bundesministerium für Gesundheit. (2026). *Ärztliche Versorgung*. <https://www.bundesgesundheitsministerium.de/themen/krankenversicherung/ambulante-versorgung/aerztliche-versorgung> (Retrieved July 18, 2026).
- Emmert, M., & McLennan, S. (2021). One decade of online patient feedback: Longitudinal analysis of data from a german physician rating website. *Journal of Medical Internet Research*, 23(7). <https://doi.org/10.2196/24229> (Retrieved July 18, 2026).
- Kassenärztliche Bundesvereinigung. (2025). *Kennzahlen der ambulanten Versorgung*. <https://www.kbv.de/infothek/zahlen-und-fakten/gesundheitsdaten/fachgruppe-und-schwerpunkt> (Retrieved July 18, 2026).
- Leach, B., Gradison, M., Morgan, P., Everett, C., Dill, M. J., & De Oliveira, J. S. (2018). Patient preference in primary care provider type. *Healthcare*, 6(1), 13–16.

- <https://doi.org/10.1016/j.hjdsi.2017.01.001> (Retrieved July 18, 2026).
- Lin, C., Tu, P., Parker, T., Mella-Velazquez, A., Bier, B., & Braund, W. E. (2024). The influences of SES on patient choice of doctor: A systematic review. *American Journal of Preventive Medicine*, 67(5), 759–769. <https://doi.org/10.1016/j.amepre.2024.06.012> (Retrieved July 18, 2026).
- Mayring, P. (2023). *Einführung in die qualitative Sozialforschung: Eine Anleitung zu qualitativem Denken* (7. überarbeitete Auflage). Beltz.
- Mühlbacher, A. C., Bethge, S., & Eble, S. (2013). Patient preferences for integrated care networks in Germany: A discrete-choice experiment (DCE). *International Journal of Integrated Care*, 13(5). <https://doi.org/10.5334/ijic.1287> (Retrieved July 18, 2026).
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4. Auflage). SAGE Publications, Inc.
- Pratiwi, A. B., Padmawati, R. S., Mulyanto, J., & Willems, D. L. (2023). Patients values regarding primary health care: A systematic review of qualitative and quantitative evidence. *BMC Health Services Research*, 23(1), 400. <https://doi.org/10.1186/s12913-023-09394-8> (Retrieved July 18, 2026).

AUTHOR'S SCIENTIFIC PUBLICATIONS

Merten, P. C. (2026). Führung als Schlüssel zur Mitarbeitergesundheit im Gesundheitswesen: Ein systematisches Review zu Ressourcen, Belastungen und Wirkmechanismen Leadership as a key of employee well-being in the healthcare sector: A systematic review of resources, stressors and impact mechanisms. *Gesundheitsökonomie & Qualitätsmanagement*. <https://doi.org/10.1055/a-2850-9013>

Merten, P. C. (2026). Der Einfluss von Führungskräften auf Mitarbeitende: Ein Literatur Review über die Zusammenhänge zwischen Führung und Mitarbeitergesundheit. *Gesundheitsökonomie & Qualitätsmanagement*, 31(02), 65–69. <https://doi.org/10.1055/a-2672-5097>

Merten, P. C. (2025). Digitalization in German Hospitals – The Development and Impact on Employees and Patient Satisfaction. In R. Resperger, Z. Széles, & I. Balázs (Hrsg.), *Fenntarthatósági átmenet – innovációs ökoszisztémák – digitális megoldások: Konferenciakötet* (S. 47–57). Soproni Egyetem Kiadó. <https://doi.org/10.35511/978-963-334-550-4-s1-4>

- Merten, P. C. (2025). Medical ethics in German hospitals: Economic efficiency versus patient well-being. *Developments in Health Sciences*, 8(1), 50–55.
<https://doi.org/10.1556/2066.2025.00070>
- Merten, P. C. (2024). Sustainability and Climate Protection in Hospitals: Green Hospitals in the Future in Germany. In C. Obádovics & Z. Széles (Hrsg.), *Fenntarthatósági átmenet: Kihívások és innovatív megoldások: Nemzetközi tudományos konferencia a Magyar Tudomány Ünnepe alkalmából* (S. 719–726). Soproni Egyetem Kiadó. <https://doi.org/10.35511/978-963-334-499-6-Merten>
- Merten, P. C. (2023). Das Krankenhaus-MVZ Planung, Aufbau, Betrieb. *Gazdaság és Társadalom*, 16(4), 127–132.
<https://doi.org/10.21637/GT.2023.4.07>