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Economic determinants of financial performance in a public outpatient healthcare facility – retrospective study of health services financed by the National Health Fund

Ekonomiczne uwarunkowania wyników finansowych publicznej placówki ambulatoryjnej: retrospektywne badanie świadczeń finansowanych przez Narodowy Fundusz Zdrowia

Krzysztof Marcin Zakrzewski[1,A-F], Agata Olearczyk[2,D], Radosław Michalik[3,E], Andrzej Silczuk[4,A,D-F] ✉

[1] *SZPZLO-Ochota, -, Poland*
[2] *Department of Health Innovation, Warsaw School of Economics, Poland*
[3] *Department of Neurosurgery, Medical University of Warsaw, Poland*
[4] *Department of Community Psychiatry, Faculty of Health Sciences, Medical University of Warsaw, Poland*
A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of the article

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Abstract

Introduction. The Polish health care system has recently faced major financial pressures, including post- pandemic recovery, high inflation, statutory wage increases for medical personnel, and repeated tariff adjustments by the National Health Fund (NHF). Outpatient providers are expected to take over more services from hospitals, yet evidence on their financial sustainability under current NHF financing remains limited.

Objective. The aim of the study is to evaluate the operational profitability of a public outpatient provider in a semi-urban setting funded mainly through NHF contracts, and to assess revenue and cost trends, and key determinants of financial performance relevant to similar non-hospital providers.

Materials and Method. A retrospective analysis of aggregated data from the provider's Hospital Information System and Enterprise Resource Planning system was conducted for January 2021 – June 2025. Descriptive statistics were used to assess trends in revenues, costs, personnel expenditures, operating margins and NHF cost coverage, with personnel costs analyzed separately for employment-contract and contracted staff.

Results. Revenues increased by 46%, NHF funding by 50% and total costs by 85%, with full cost coverage in only 20% of months. Personnel expenditures rose from 80% to over 86% of total costs. Average full time equivalent costs increased by 72% for employment-contract staff and by 233% for contracted personnel. From late 2022 onward, costs consistently exceeded revenues.

Conclusions. The provider's financial position deteriorated due to rapidly rising labour costs and insufficient NHF reimbursement adjustments. These trends indicate broader systemic pressures that may threaten the sustainability of publicly funded outpatient services unless tariff, wage and contracting policies are reformed.

Key words

healthcare financing, financial performance, labor costs, outpatient services

Streszczenie

Wprowadzenie i cel. Polski system ochrony zdrowia mierzy się z silną presją finansową wynikającą z kosztów postpandemicznych, inflacji, podwyżek płac i korekt taryf NFZ. Jednocześnie od świadczeniodawców ambulatoryjnych oczekuje się przejęcia większej liczby usług, mimo ograniczonej wiedzy o ich stabilności finansowej. Celem pracy była ocena rentowności operacyjnej publicznego świadczeniodawcy ambulatoryjnego w środowisku półmiejskim oraz analiza trendów przychodów, kosztów i głównych determinant wyników finansowych.

Materiał i metody. Przeprowadzono retrospektywną analizę zagregowanych danych pochodzących z Szpitalnego Systemu Informacyjnego świadczeniodawcy oraz z systemu klasy ERP, obejmującą okres od stycznia 2021 do czerwca 2025. Statystyki opisowe wykorzystano do oceny trendów w zakresie przychodów, kosztów, wydatków osobowych, marż operacyjnych oraz stopnia pokrycia kosztów przez NFZ. Koszty osobowe analizowano odrębnie dla pracowników zatrudnionych na umowę o pracę i personelu kontraktowego.

Wyniki. Przychody wzrosły o 46%, finansowanie NFZ o 50%, natomiast całkowite koszty aż o 85%. Pełne pokrycie kosztów uzyskano jedynie w 20% analizowanych miesięcy. Udział

✉ Address for correspondence: Andrzej Silczuk, Department of Community Psychiatry, Faculty of Health Sciences, Medical University of Warsaw, Poland
E-mail: andrzej.silczuk@wum.edu.pl

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wydatków osobowych zwiększył się z 80% do ponad 86% kosztów całkowitych. Średnie koszty w przeliczeniu na etat wzrosły o 72% dla pracowników etatowych oraz o 233% dla personelu kontraktowego. Od końca 2022 roku koszty stale przewyższały przychody.
Wnioski. Sytuacja finansowa świadczeniodawcy pogorszyła się wskutek gwałtownego wzrostu kosztów pracy i niewystarczających korekt wyceny świadczeń przez NFZ. Tendencje te wskazują na problemy systemowe, które mogą zagrozić stabilności publicznych świadczeń ambulatoryjnych bez odpowiednich zmian w polityce taryfowej, płacowej i kontraktowania.

Słowa kluczowe
wyniki finansowe, koszty pracy, finansowanie ochrony zdrowia, świadczenia ambulatoryjne

INTRODUCTION

The Polish health care system has been undergoing continuous transformation for more than twenty five years, starting with the introduction of an insurance-based financing model of 1 January 1999. The National Health Fund (Narodowy Fundusz Zdrowia, NHF) acts as the single dominant public payer within a social health insurance scheme that covers almost the entire resident population [1]. International comparative analyses indicate that Poland still spends a lower share of gross domestic product (GDP) on health than the average of European Union countries, and maintains a financing structure with a relatively high proportion of resources devoted to inpatient care [1,2]. According to national statistics, current health care expenditure in 2023 reached approximately 7.1% of GDP, with a substantial increase in nominal spending over recent years [3].

Recent planning documents and policy analyses show that hospital services absorb a very large share of NHF expenditure. The projected NHF financial plan for 2025 allocates almost 96 billion PLN to hospital treatment, which represents around half of all medical service expenditure financed by the Fund [4]. At the same time, there is growing concern about the sustainability of NHF finances and the ability of the public payer to meet its statutory obligations without substantial additional budget transfers.

An audit conducted by the Supreme Audit Office (SAO) on the implementation of NHF tasks in the years 2021–2024 showed that revenue growth lagged far behind expenditure growth. In the audited period, total NHF revenues increased by 8.3%, which means a real decrease after taking inflation into account, while total costs rose by 30.2% [5]. SAO emphasized that in 2021 – 2023, the revenue from health insurance contributions was consistently lower than expenditure on health services, and that the Fund was additionally burdened with new tasks whose financing was not fully secured [5]. The audit estimated that the Fund was charged with approximately 113.1 billion PLN in additional obligations, including about 90.6 billion PLN related to statutory annual wage increases for medical personnel, and further amounts linked to highly specialized services and the emergency medical services system [5].

Medium term projections prepared by independent experts suggest a deepening structural financing gap. A report on the impact of the excessive deficit procedure on health financing estimated that the NHF financial gap would reach 54.2 billion PLN in 2026, 70.8 billion PLN in 2027 and 90.0 billion PLN in 2028, implying that in the period 2025 – 2028, a cumulative amount of about 216.5 billion PLN would have to be additionally transferred to the NHF to cover planned obligations [6]. Media summaries of these projections report similar figures and underline the increasing dependence of the Fund on state budget support [7]. These data underscore the tension between expanding expenditure commitments and the limited growth of contributory revenues.

In response to these challenges, health policy in Poland and in other European countries increasingly promotes the concept sometimes described as an inverse care pyramid, whereby more care is provided in primary and ambulatory settings and fewer services are concentrated in hospitals [8,9]. Strong primary care and ambulatory services are considered essential for efficient, coordinated and equitable health systems [8,10,11]. International evidence on ambulatory care sensitive conditions suggests that a substantial proportion of hospital admissions could be avoided or substituted if outpatient care is accessible, well coordinated and adequately resourced [9,12,13]. Studies conducted during the COVID 19 pandemic further showed that changes in hospitalizations for ambulatory care sensitive conditions reflect not only the quality of ambulatory care, but also a broader system level and patient level factors, which complicates interpretation of these indicators [12].

Despite the strategic emphasis on shifting care to outpatient settings, the empirical literature on the economic situation of Polish health care providers remains dominated by analyses of hospitals. Cross-sectional studies of public hospitals in Poland demonstrate widespread financial instability, high levels of indebtedness, and marked differences in financial results across ownership forms and organizational types, with county and university hospitals often in the most disadvantageous position [14,15]. In contrast, much less is known about the financial performance and profitability of public providers delivering ambulatory and day care services under contracts with the NHF, although these providers are expected to absorb a growing volume of procedures that can be safely performed outside the hospital environment.

Public outpatient providers operating in semi-urban and mixed urban-rural areas are of particular interest. On the one hand, they are exposed to the same regulatory and financing environment as hospital providers, including changes in NHF tariffs, wage regulations and contractual conditions. On the other hand, they may have more flexibility in organizing services and shifting the mix of procedures between traditional ambulatory visits and day care formats. Understanding the determinants of their financial performance is therefore important for assessing the feasibility of the inverse care pyramid in practice and for designing contracting arrangements that do not compromise the economic sustainability of non-hospital public providers.

OBJECTIVE

The aim of the study is to determine the level and evolution of profitability, with particular emphasis on operating margins and the interactions between NHF revenue streams and major cost components. It also seeks to identify the principal external and internal determinants that shape the provider's economic position, including regulatory and financing frameworks, organizational characteristics, resource allocation patterns and the stability of managerial oversight. A further objective is to assess the extent to which these determinants may be considered objective and transferable to other public non-hospital providers delivering ambulatory and day care services under comparable contractual and organizational conditions. By concentrating on a provider with stable organizational continuity and a consistent service portfolio, the analysis aims to clarify the influence of policy and financing conditions on economic performance and to inform broader debates on NHF contracting policies and the realistic scope for shifting procedures from inpatient to ambulatory care. Taken together, these aims culminate in a comprehensive evaluation of the operational profitability of a public outpatient health care provider operating in a semi-urban environment and financed predominantly through National Health Fund contracts.

MATERIALS AND METHOD

Study design. The study employed a retrospective observational design based on secondary analysis of existing institutional data. The analytic approach followed established methodological standards for studies using routinely collected administrative and economic records, where data are generated independently of the research process, and without any direct interaction with patients or staff.

Setting and study period. The analysis was conducted using data from the Independent Group of Public Outpatient Healthcare Facilities Warsaw-Ochota (Samodzielny Zespół Publicznych Zakładów Lecznictwa Otwartego Warszawa Ochota (SZPZLO Ochota)), a public outpatient provider operating in an urban and semi-urban catchment area. The ambulatory services delivered by SZPZLO Ochota covers residents of the districts of Ochota and Ursus in Warsaw, as well as inhabitants of the adjacent Raszyn commune. Services are provided to patients across all age groups. The organization offers a broad portfolio of ambulatory care, including primary health care (family medicine and paediatrics), specialist outpatient services (cardiology, neurology, dermatology, ophthalmology, otorhinolaryngology, gynaecology and obstetrics, and internal medicine), dental and prosthetic care, psychiatric and psychological services, addiction treatment, rehabilitation and physiotherapy, as well as laboratory and imaging diagnostics (X-ray, ultrasound and, where available, CT or MRI). According to institutional data, SZPZLO Warsaw-Ochota provides care to more than 60,000 patients within its catchment area.

The study period covered 1 January 2021–30 June 2025. This timeframe includes the late phase of the COVID 19 pandemic, the subsequent recovery period, and the phases of inflation driven cost escalation, as well as multiple revisions to service tariffs and contracting rules introduced by the National Health Fund (NHF).

Data sources. Two institutional IT systems served as primary sources of information: the Hospital Information System (HIS), which provided detailed data on service volume, structure and categorization of ambulatory and day care procedures as well as operational and organizational indicators relevant to service delivery, and the Enterprise Resource Planning (ERP) system, which contained comprehensive financial records, including revenues from National Health Fund contracts, own revenue streams, direct and indirect costs, personnel expenditures, material costs and other operational expenses. Data extraction was performed by the institution's IT department according to predefined specifications prepared by the research team, and only aggregated, non-identifiable numerical and financial data were transferred for analysis.

Study population and inclusion criteria. The study did not involve the individual level or patient-linked data. The unit of analysis was the health care provider as an institution. Because the dataset covered complete organizational level economic and operational indicators for the entire observation period, no inclusion or exclusion criteria were applied, and no sampling procedures were required.

Variables and measures. The analysis encompassed several categories of variables, including revenue variables (total National Health Fund contract revenue, revenue by service type, own revenue and supplementary revenue streams), cost variables (total operating costs, personnel costs, material and pharmaceutical expenditures, diagnostic and procedural costs as well as administrative and overhead expenses) and profitability measures (operating profit, operating margin, cost-to-revenue ratios and contribution margins by service category). Additionally, operational indicators were assessed, including service volume by procedure type, the structure of ambulatory visits and day care services, and month-to-month and year-to-year variations. All financial variables were expressed in nominal PLN values, and temporal trends were interpreted in relation to known tariff adjustments and regulatory changes introduced by the National Health Fund.

Data management. Data were checked for internal consistency and completeness before analysis. Because the dataset consisted of organizational aggregates produced through standardized HIS and ERP modules, no imputation procedures were required. The research team verified coherence between revenue and cost records through cross tabulation and reconciliation with periodic financial statements of the provider.

Ethical considerations. The study used exclusively secondary, aggregated institutional data that contained no personal identifiers and no patient level information. All analyses were performed on anonymized, non-traceable datasets provided directly by the institution. According to national regulatory standards for non-interventional studies using non- identifiable secondary data, formal Ethics Committee approval was not required.

Analytical approach. Descriptive statistics were used to evaluate temporal trends in revenues, costs, service volumes and profitability measures. Year-to-year and month-to-month variations were examined to identify key determinants

of financial performance. Qualitative interpretation of trends was informed by contextual knowledge of NHF tariff changes, wage regulations for medical personnel and other policy modifications occurring during the study period. The analysis aimed to identify structural patterns rather than individual level determinants, consistent with the objective of evaluating the financial stability and risk profile of a public outpatient provider operating in a semi-urban environment.

RESULTS

Trends in Total Revenues and Costs. A comparison of the first quarter of 2021 and the second quarter of 2025 shows a clear and widening gap between revenue and cost growth. In Q1 2021, total revenues amounted to 11,059,150.60 PLN and total costs to 10,138,974.24 PLN, of which 9,812,791.23 PLN originated from the National Health Fund (NHF). By Q2 2025, total revenues increased to 16,192,715.96 PLN, while total costs reached 18,755, 824.37 PLN, including 14,685,371.80 PLN financed by the NHF. A summary of the key financial indicators for these two time points is provided in Table 1, highlighting the disproportionate increase in total costs relative to revenues. The divergence between revenue and cost trajectories over the study period is clearly illustrated in Figure 1, where operating costs consistently exceed revenues from late 2022 onwards.

Table 1. Total revenues, NHF revenues, total costs and financial results (Q1 2021 vs Q2 2025)

	Q1 2021	Q2 2025
Total revenues	PLN 11,059,150.60	PLN 16,192,715.96
Revenues from NHF	PLN 9,812,791.23	PLN 14,685,371.80
Total costs	PLN 10,138,974.24	PLN 18,755,824.37
Financial result	PLN 920,776.36	–PLN 2,563,108.41
Ratio of total revenues to total costs	1.09	0.86
Ratio of total revenues to total costs [%]	109%	86%
Ratio of NHF revenues to total costs	0.97	0.78
Ratio of NHF revenues to total costs [%]	97%	78%

Q – quarter of the year, NHF – National Health Fund

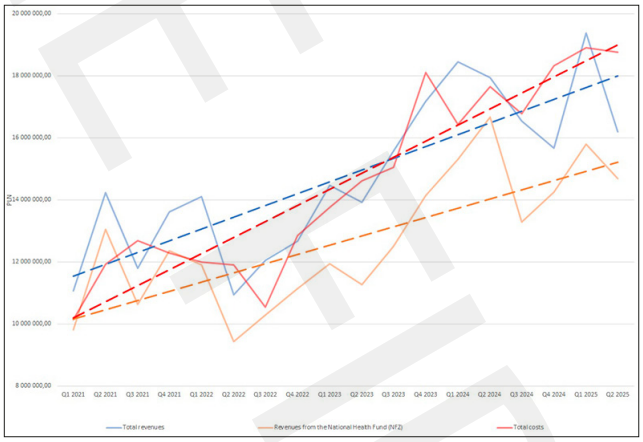

Figure 1. Trends in revenues and costs over time

Across the observation period, total revenues increased by 46%, whereas total costs grew by 85%. Revenues from NHF contracts rose by 50%, but this remained insufficient to offset accelerating cost growth. The ratio of total revenues to total costs decreased from 109% in Q1 2021 to 86% in Q2 2025, while the share of NHF revenues relative to total costs declined from 97% to 78%. Long-term trend analysis demonstrated that cost curves began to exceed revenue curves in December 2022 and remained higher throughout the remainder of the study period. The month-to-month variability in the proportion of operating costs covered by National Health Fund payments is summarised in Table 2, which shows that full cost coverage occurred only in a minority of months throughout the study period. The declining contribution of National Health Fund financing to overall operating expenditures is illustrated in Figure 2, demonstrating a clear downward trend in the Fund's share of monthly costs over time.

Only 11 out of 54 observed months (20%) showed full cost coverage by NHF payments, while in 43 months (80%) the provider operated below cost recovery (Tab. 2). The overall distribution of coverage levels demonstrated persistent structural under-funding relative to operational needs.

Structure of Cost Components. Personnel-related expenditures constituted the dominant cost category. In January 2021, salaries and mandatory social security contributions for employees under standard employment contracts represented 60.84% of total costs, while payments for contracted medical services accounted for 19.47%. Combined, these components amounted to 80.33% of overall expenditures.

By June 2025, the share of employment-contract wages slightly declined to 57.35%, but contracted services increased substantially to 28.90%. Together, they represented 86.25% of total costs. The most notable structural shift was the growing contribution of contracted medical services to overall expenditures, reflecting rising market prices for physicians and specialized staff.

Personnel Cost Dynamics. Costs associated with personnel employed under standard employment contracts increased substantially over the study period. Total expenditures grew from 1,899,276.01 PLN in January 2021 to 3,610,243.53 PLN in June 2025. Expenditures specifically for staff directly involved in clinical service delivery increased from 1,498,535.36 PLN to 2,757,921.11 PLN during the same period. Despite a relatively stable employee headcount, personnel expenditures rose primarily due to statutory wage

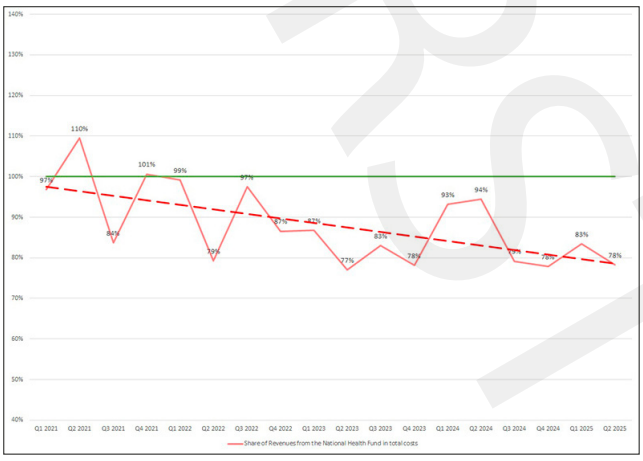

Figure 2. NHF share of total monthly costs

Table 2. Monthly NHF cost coverage ratios, 2021–2025

	2021.01	2021.02	2021.03	2021.04	2021.05	2021.06	2021.07	2021.08	2021.09	2021.10	2021.11	2021.12
Revenues from the National Health Fund (NHF)	2 846 423,47	3 857 827,36	3 108 540,40	3 229 048,36	4 758 734,25	5 066 116,86	3 928 995,21	3 047 855,70	3 653 044,97	3 257 073,44	4 352 911,99	4 749 356,01
Share of Revenues from the National Health Fund in total costs	91%	105%	93%	92%	119%	115%	92%	71%	89%	88%	108%	104%

	2022.01	2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12
Revenues from the National Health Fund (NHF)	4 416 250,33	3 326 019,67	4 153 077,14	3 767 305,83	3 229 516,79	2 435 960,72	2 658 670,55	4 869 022,15	2 749 362,17	4 354 520,09	3 402 898,29	3 373 774,69
Share of Revenues from the National Health Fund in total costs	117%	83%	98%	95%	73%	69%	83%	137%	73%	103%	79%	78%

	2023.01	2023.02	2023.03	2023.04	2023.05	2023.06	2023.07	2023.08	2023.09	2023.10	2023.11	2023.12
Revenues from the National Health Fund (NHF)	4 850 132,94	3 451 304,55	3 641 016,34	3 607 080,85	4 310 138,53	3 343 045,83	3 699 336,22	4 043 042,70	4 757 769,92	4 170 505,38	5 408 147,07	4 562 790,07
Share of Revenues from the National Health Fund in total costs	111%	73%	78%	78%	84%	69%	82%	79%	88%	79%	97%	63%

	2024.01	2024.02	2024.03	2024.04	2024.05	2024.06	2024.07	2024.08	2024.09	2024.10	2024.11	2024.12
Revenues from the National Health Fund (NHF)	5 280 160,85	5 246 786,92	4 769 098,83	5 431 290,01	5 116 884,74	6 121 799,37	2 466 670,71	5 499 104,96	5 321 543,80	4 751 377,36	5 098 675,36	4 405 876,14
Share of Revenues from the National Health Fund in total costs	108%	88%	86%	92%	81%	113%	45%	99%	93%	79%	85%	69%

	2025.01	2025.02	2025.03	2025.04	2025.05	2025.06
Revenues from the National Health Fund (NHF)	5 424 277,65	4 521 040,36	5 840 097,89	4 570 618,17	5 396 760,66	4 717 992,97
Share of Revenues from the National Health Fund in total costs	87%	73%	90%	72%	88%	75%

indexation under national regulations. The average monthly cost per full-time equivalent (FTE) for employment-contract staff increased from 4,472.71 PLN in 2021 to 7,682.66 PLN in 2025, representing a 72% rise.

Costs linked to contracted medical services increased at a much faster rate. Total expenditures rose from 597,321.08 PLN in January 2021 to 1,815,680.33 PLN in June 2025, reflecting more than a three-fold increase. The most intensive acceleration occurred after January 2024, coinciding with growing wage expectations among specialist physicians. The average monthly cost per FTE for contracted personnel increased from 7,404.50 PLN in early 2021 to 24,686.34 PLN in June 2025, representing a 233% increase. This significantly exceeded the inflation rate over the same period. Personnel structure analysis also showed increasing atomization of contracted work arrangements: the number of individual contractors required to fill a single FTE increased from 3.69 in January 2021 to 4.18 in June 2025.

Monthly Operating Performance and NHF Coverage. NHF revenues demonstrated substantial fluctuations, ranging from 2.44 million PLN to 6.12 million PLN across the 2021–2025 period. Costs increased more steadily, reflecting stabilizing but persistently rising expenditures. The proportion of costs covered by NHF revenues varied considerably, ranging from 45% to 137%. Months with coverage above 100% were rare and typically associated with temporary tariff adjustments. The detailed distribution of expenditure across employment-contract staff, contracted services and other operational categories is presented in Table 3. The overall evolution of these cost components over time is illustrated in Figure 3, which highlights the growing dominance of personnel-related spending.

From mid-2023 onward, personnel costs continued to rise despite declining inflation (from 18.4% in February 2023 to 6.5% in November 2023 and approximately 4% in 2025). This pattern reflected the impact of statutory minimum wage increases for healthcare employees, which continued to exert upward pressure on operational spending even after macroeconomic conditions began to stabilize.

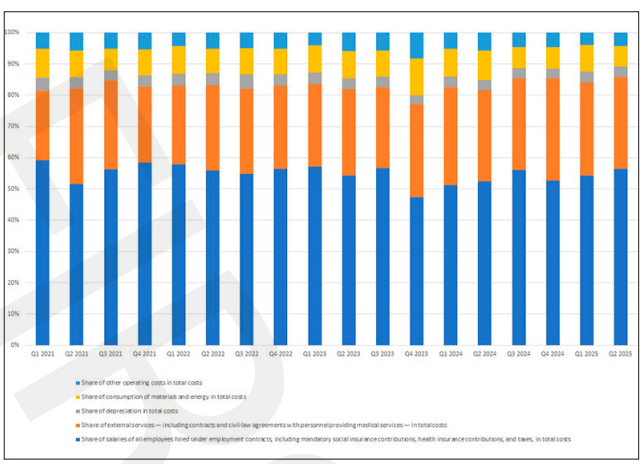

Figure 3. Composition of major cost categories 2021–2025

Table 3. Structure of cost categories (employment-contract staff, contracted services, other expenditures)

	2021.01	2021.02	2021.03	2021.04	2021.05	2021.06	2021.07	2021.08	2021.09	2021.10	2021.11	2021.12
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Table 4 and Table 5 present the monthly revenues and costs across all identified sources, allowing for a comparative assessment of their stability and relative contribution. Building on the revenue analysis, the next part of the results outlines the expenditure structure. Table 5 summarises the monthly costs, providing a detailed breakdown of operational spending and highlighting the major cost drivers. Given the central role of staffing expenditures, a separate subsection focuses on personnel-related outlays.

Table 6 reports the average full-time equivalent (FTE) cost for both standard employment contracts and contracted services, enabling direct comparison between these two forms of workforce engagement. To deepen the understanding of cost dynamics over time, Figure 4 illustrates the relationship between inflation levels and the growth of personnel costs, showing how macro-economic pressures translate into financial burdens for the organisations. Finally, to characterise the structural composition of the workforce, Figure 5 depicts the degree of fragmentation among contracted FTEs, offering insight into the complexity and distribution of external staffing arrangements.

DISCUSSION

The study showed a marked deterioration in the financial position of a public outpatient provider over 2021–2025, despite growth in revenues from the NHF. Total costs grew almost twice as fast as revenues, NHF payments covered full costs in only one-fifth of months and personnel expenditures increased both as a share of total costs and in full time equivalent (FTE) terms, particularly for contracted staff. From late 2022 onwards, operating costs consistently exceeded revenues, resulting in a sustained loss of operational profitability.

These findings are consistent with international evidence that labour costs are the dominant driver of financial pressure in health care. Studies from acute care hospitals have shown that workforce shortages and dependence on agency or temporary staff substantially increase labor costs and erode financial margins. Brinster et al. reported that pandemic-related increases in nursing labour costs led to a persistent reduction in vascular surgery margins in US hospitals, despite stable or rising revenues [16]. Similarly, Beauvais et al. demonstrated that wages and benefits constitute the largest component of hospital budgets, and that rapid growth in clinical labour costs is closely associated with deteriorating operating margins [17]. Sector level analyses by the American Hospital Association describe a "perfect storm" of rising input prices, wage growth and reimbursement that does not keep pace with cost escalation, leading to structural margin compression even in systems with increasing activity and revenues [18]. The present results suggest that outpatient providers in Poland are exposed to analogous cost and wage dynamics, but with less room for cross-subsidization than large hospitals.

Table 4. Monthly revenues (all sources)

	2021.01	2021.02	2021.03	2021.04	2021.05	2021.06	2021.07	2021.08	2021.09	2021.10	2021.11	2021.12
Total revenues	3 135 694,17	4 123 582,32	3 799 874,11	3 575 701,94	5 133 730,01	5 524 418,53	4 121 734,45	3 626 338,10	4 039 748,72	3 626 164,31	4 705 653,57	5 284 765,22
Revenues from the National Health Fund (NHF)	2 846 423,47	3 857 827,36	3 108 540,40	3 229 048,36	4 758 734,25	5 066 116,86	3 928 995,21	3 047 855,70	3 653 044,97	3 257 073,44	4 352 911,99	4 749 356,01
Total costs	3 121 913,49	3 682 297,22	3 334 763,53	3 514 833,32	4 015 800,86	4 390 052,64	4 252 564,56	4 313 714,96	4 123 029,51	3 700 918,26	4 021 004,29	4 556 899,97

	2022.01	2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12
Total revenues	4 888 345,17	3 942 776,29	5 263 264,35	4 140 710,83	3 626 876,39	3 176 956,28	3 140 214,89	5 535 533,63	3 366 499,23	4 841 750,07	3 875 969,94	3 948 504,77
Revenues from the National Health Fund (NHF)	4 416 250,33	3 326 019,67	4 153 077,14	3 767 305,83	3 229 516,79	2 435 960,72	2 658 670,55	4 869 022,15	2 749 362,17	4 354 520,09	3 402 898,29	3 373 774,69
Total costs	3 764 442,41	3 992 768,82	4 241 519,66	3 963 639,94	4 406 610,07	3 532 237,91	3 184 565,89	3 565 238,80	3 791 660,85	4 208 227,61	4 297 100,45	4 351 352,35

	2023.01	2023.02	2023.03	2023.04	2023.05	2023.06	2023.07	2023.08	2023.09	2023.10	2023.11	2023.12
Total revenues	5 369 215,85	4 412 725,04	4 687 076,04	4 212 673,67	4 943 474,32	4 758 558,04	4 859 636,89	5 154 367,95	5 559 100,99	5 022 878,32	6 330 238,17	5 818 323,35
Revenues from the National Health Fund (NHF)	4 850 132,94	3 451 304,55	3 641 016,34	3 607 080,85	4 310 138,53	3 343 045,83	3 699 336,22	4 043 042,70	4 757 769,92	4 170 505,38	5 408 147,07	4 562 790,07
Total costs	4 362 788,94	4 746 774,86	4 646 036,84	4 647 481,00	5 148 758,50	4 818 659,47	4 505 316,67	5 135 739,94	5 412 758,42	5 259 660,15	5 555 030,16	7 287 655,16

	2024.01	2024.02	2024.03	2024.04	2024.05	2024.06	2024.07	2024.08	2024.09	2024.10	2024.11	2024.12
Total revenues	7 108 056,06	5 789 460,63	5 556 871,81	5 828 754,42	5 557 446,78	6 558 726,70	4 466 937,81	6 252 722,75	5 822 342,51	5 254 189,93	5 464 997,51	4 942 442,17
Revenues from the National Health Fund (NHF)	5 280 160,85	5 246 786,92	4 769 098,83	5 431 290,01	5 116 884,74	6 121 799,37	2 466 670,71	5 499 104,96	5 321 543,80	4 751 377,36	5 098 675,36	4 405 876,14
Total costs	4 894 610,24	5 984 245,19	5 543 731,06	5 910 682,80	6 315 159,98	5 428 293,92	5 465 109,55	5 571 141,31	5 741 666,50	5 988 090,16	5 971 033,54	6 358 642,24

	2025.01	2025.02	2025.03	2025.04	2025.05	2025.06
Total revenues	6 799 169,49	6 011 667,12	6 555 946,65	4 988 429,69	5 862 500,96	5 341 785,31
Revenues from the National Health Fund (NHF)	5 424 277,65	4 521 040,36	5 840 097,89	4 570 618,17	5 396 760,66	4 717 992,97
Total costs	6 211 341,07	6 184 768,70	6 514 409,83	6 352 318,63	6 108 533,61	6 294 972,13

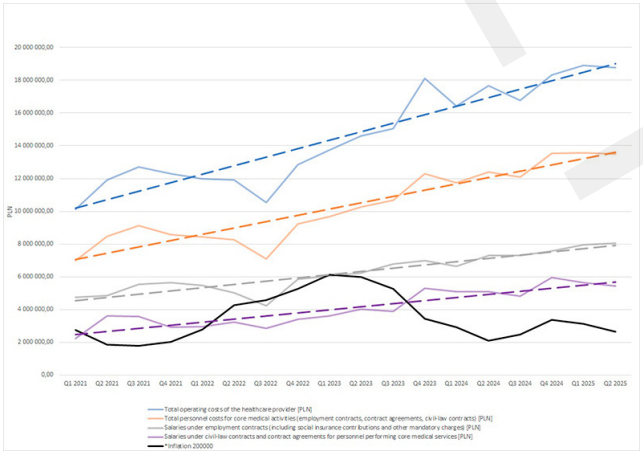

Figure 4. Inflation vs personnel cost growth

In the Polish context, the obtained results resonate with previous research on outpatient and primary care providers. Korneta examined the performance of small and medium-sized Outpatient Clinics during the COVID-19 pandemic and highlighted the central role of medical staff availability and staffing decisions for both efficiency and financial outcomes [19]. In a related study on primary care clinics under capitation contracts, the same author showed that the pandemic disrupted activity levels and threatened financial stability despite the relative protection offered by population based payments [20]. Together with the findings of the current study, this suggests that even outside the acute pandemic phase, outpatient entities in Poland operate under tight financial constraints, with staffing and wage regulation acting as key determinants of economic viability.

The observed mismatch between statutory wage growth and NHF reimbursement also fits within a broader international literature on payment systems and provider behaviour. A recent review by Wagenschieber et al. showed

Table 5. Monthly costs

	2021.01	2021.02	2021.03	2021.04	2021.05	2021.06	2021.07	2021.08	2021.09	2021.10	2021.11	2021.12
Share of salaries of all employees hired under employment contracts, including mandatory social insurance contributions, health insurance contributions, and taxes, in total costs	61%	62%	55%	53%	57%	45%	56%	54%	58%	59%	57%	59%
Share of external services — including contracts and civil-law agreements with personnel providing medical services — in total costs	19%	21%	27%	28%	25%	38%	31%	32%	22%	25%	23%	25%
Share of depreciation in total costs	5%	4%	4%	4%	4%	3%	3%	3%	3%	4%	4%	3%
Share of consumption of materials and energy in total costs	10%	9%	9%	10%	8%	7%	5%	6%	9%	8%	10%	7%
Share of other operating costs in total costs	5%	5%	5%	5%	6%	6%	4%	5%	7%	5%	6%	5%

	2022.01	2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12
Share of salaries of all employees hired under employment contracts, including mandatory social insurance contributions, health insurance contributions, and taxes, in total costs	60%	57%	57%	55%	61%	50%	52%	57%	55%	57%	58%	54%
Share of external services — including contracts and civil-law agreements with personnel providing medical services — in total costs	23%	27%	26%	27%	23%	33%	30%	25%	28%	26%	26%	28%
Share of depreciation in total costs	4%	4%	4%	4%	3%	4%	5%	4%	4%	3%	4%	4%
Share of consumption of materials and energy in total costs	9%	8%	9%	8%	7%	8%	7%	7%	10%	8%	8%	8%
Share of other operating costs in total costs	4%	4%	4%	6%	5%	5%	5%	7%	3%	6%	4%	6%

	2023.01	2023.02	2023.03	2023.04	2023.05	2023.06	2023.07	2023.08	2023.09	2023.10	2023.11	2023.12
Share of salaries of all employees hired under employment contracts, including mandatory social insurance contributions, health insurance contributions, and taxes, in total costs	56%	61%	54%	53%	57%	52%	54%	60%	55%	54%	52%	39%
Share of external services — including contracts and civil-law agreements with personnel providing medical services — in total costs	26%	25%	29%	28%	24%	32%	27%	25%	27%	28%	31%	30%
Share of depreciation in total costs	4%	3%	4%	4%	3%	4%	4%	3%	3%	3%	3%	2%
Share of consumption of materials and energy in total costs	10%	8%	8%	10%	10%	6%	9%	7%	9%	9%	7%	17%
Share of other operating costs in total costs	4%	3%	5%	6%	5%	6%	6%	5%	6%	5%	6%	12%

	2024.01	2024.02	2024.03	2024.04	2024.05	2024.06	2024.07	2024.08	2024.09	2024.10	2024.11	2024.12
Share of salaries of all employees hired under employment contracts, including mandatory social insurance contributions, health insurance contributions, and taxes, in total costs	53%	50%	51%	53%	51%	53%	58%	57%	54%	51%	53%	54%
Share of external services — including contracts and civil-law agreements with personnel providing medical services — in total costs	28%	32%	33%	30%	27%	30%	30%	28%	29%	34%	32%	31%
Share of depreciation in total costs	4%	3%	3%	3%	3%	3%	4%	3%	3%	3%	3%	3%
Share of consumption of materials and energy in total costs	11%	8%	8%	9%	11%	8%	5%	8%	8%	7%	7%	7%
Share of other operating costs in total costs	4%	7%	5%	4%	8%	5%	4%	4%	6%	4%	4%	5%

	2025.01	2025.02	2025.03	2025.04	2025.05	2025.06
Share of salaries of all employees hired under employment contracts, including mandatory social insurance contributions, health insurance contributions, and taxes, in total costs	54%	55%	54%	55%	57%	57%
Share of external services — including contracts and civil-law agreements with personnel providing medical services — in total costs	30%	29%	30%	29%	29%	29%
Share of depreciation in total costs	3%	3%	3%	3%	3%	3%
Share of consumption of materials and energy in total costs	9%	8%	9%	7%	6%	6%
Share of other operating costs in total costs	4%	4%	4%	5%	4%	4%

Table 6. Average FTE cost for employment contracts and contracted services

	2021.01	2021.02	2021.03	2021.04	2021.05	2021.06	2021.07	2021.08	2021.09	2021.10	2021.11	2021.12
Total operating costs of the healthcare provider [PLN]	3 121 913,49	3 682 297,22	3 334 763,53	3 514 833,32	4 015 800,86	4 390 052,64	4 252 564,56	4 313 714,96	4 123 029,51	3 700 918,26	4 021 004,29	4 556 899,97
Total personnel costs for core medical activities (employment contracts, contract agreements, civil-law contracts) [PLN]	2 095 856,44	2 606 693,50	2 284 202,03	2 397 003,64	2 863 896,87	3 206 483,98	3 117 106,78	3 164 770,62	2 839 328,17	2 592 407,70	2 710 321,02	3 269 461,35
Salaries under employment contracts (including social insurance contributions and other mandatory charges) [PLN]	1 498 535,36	1 855 283,77	1 393 496,53	1 428 121,14	1 881 771,99	1 542 236,62	1 823 486,13	1 810 294,15	1 921 789,15	1 696 703,35	1 813 587,12	2 120 644,40
Salaries under civil-law contracts and contract agreements for personnel performing core medical services [PLN]	597 321,08	751 409,73	890 705,50	968 882,50	982 124,88	1 664 247,36	1 293 620,65	1 354 476,47	917 539,02	895 704,35	896 733,90	1 148 816,95

	2022.01	2022.02	2022.03	2022.04	2022.05	2022.06	2022.07	2022.08	2022.09	2022.10	2022.11	2022.12
Total operating costs of the healthcare provider [PLN]	3 764 442,41	3 992 768,82	4 241 519,66	3 963 639,94	4 406 610,07	3 532 237,91	3 184 565,89	3 565 238,80	3 791 660,85	4 208 227,61	4 297 100,45	4 351 352,35
Total personnel costs for core medical activities (employment contracts, contract agreements, civil-law contracts) [PLN]	2 611 740,67	2 816 522,65	3 003 881,75	2 756 987,36	3 208 464,27	2 296 065,40	2 139 392,92	2 388 404,35	2 571 668,31	3 002 862,14	3 074 204,08	3 159 635,28
Salaries under employment contracts (including social insurance contributions and other mandatory charges) [PLN]	1 763 641,62	1 776 184,29	1 922 750,06	1 697 928,65	2 185 529,50	1 149 621,11	1 179 724,67	1 519 499,08	1 535 979,02	1 928 064,40	1 951 196,62	1 956 467,47
Salaries under civil-law contracts and contract agreements for personnel performing core medical services [PLN]	848 099,05	1 040 338,36	1 081 131,69	1 059 058,71	1 022 934,77	1 146 444,29	959 668,25	868 905,27	1 035 689,29	1 074 797,74	1 123 007,46	1 203 167,81

	2023.01	2023.02	2023.03	2023.04	2023.05	2023.06	2023.07	2023.08	2023.09	2023.10	2023.11	2023.12
Total operating costs of the healthcare provider [PLN]	4 362 788,94	4 746 774,86	4 646 036,84	4 647 481,00	5 148 758,50	4 818 659,47	4 505 316,67	5 135 739,94	5 412 758,42	5 259 660,15	5 555 030,16	7 287 655,16
Total personnel costs for core medical activities (employment contracts, contract agreements, civil-law contracts) [PLN]	3 036 170,61	3 376 428,55	3 277 512,65	3 198 608,81	3 599 859,00	3 477 670,10	3 045 883,99	3 763 468,57	3 855 497,61	3 742 100,51	4 042 057,90	4 509 375,94
Salaries under employment contracts (including social insurance contributions and other mandatory charges) [PLN]	1 911 283,97	2 217 820,25	1 941 516,63	1 926 786,76	2 369 546,73	1 943 291,78	1 860 414,49	2 498 627,46	2 429 962,98	2 288 249,11	2 345 480,69	2 356 571,04
Salaries under civil-law contracts and contract agreements for personnel performing core medical services [PLN]	1 124 886,64	1 158 608,30	1 335 996,02	1 271 822,05	1 230 312,27	1 534 378,32	1 185 469,50	1 264 841,11	1 425 534,63	1 453 851,40	1 696 577,21	2 152 804,90

	2024.01	2024.02	2024.03	2024.04	2024.05	2024.06	2024.07	2024.08	2024.09	2024.10	2024.11	2024.12
Total operating costs of the healthcare provider [PLN]	4 894 610,24	5 984 245,19	5 543 731,06	5 910 682,80	6 315 159,98	5 428 293,92	5 465 109,55	5 571 141,31	5 741 666,50	5 988 090,16	5 971 033,54	6 358 642,24
Total personnel costs for core medical activities (employment contracts, contract agreements, civil-law contracts) [PLN]	3 478 636,61	4 236 089,92	4 034 772,64	4 180 030,41	4 308 830,19	3 909 372,67	3 878 835,05	4 090 022,57	4 122 798,16	4 467 329,62	4 411 232,92	4 649 767,21
Salaries under employment contracts (including social insurance contributions and other mandatory charges) [PLN]	2 105 133,04	2 316 024,07	2 230 234,85	2 433 708,11	2 602 380,33	2 275 313,87	2 313 685,79	2 523 554,17	2 451 809,59	2 416 916,56	2 490 027,74	2 665 087,63
Salaries under civil-law contracts and contract agreements for personnel performing core medical services [PLN]	1 373 503,57	1 920 065,85	1 804 537,79	1 746 322,30	1 706 449,86	1 634 058,80	1 565 149,26	1 566 468,40	1 670 988,57	2 050 413,06	1 921 205,18	1 984 679,58

	2025.01	2025.02	2025.03	2025.04	2025.05	2025.06
Total operating costs of the healthcare provider [PLN]	6 211 341,07	6 184 768,70	6 514 409,83	6 352 318,63	6 108 533,61	6 294 972,13
Total personnel costs for core medical activities (employment contracts, contract agreements, civil-law contracts) [PLN]	4 427 064,75	4 473 231,57	4 681 814,05	4 512 429,91	4 419 087,68	4 573 601,44
Salaries under employment contracts (including social insurance contributions and other mandatory charges) [PLN]	2 574 582,64	2 654 925,23	2 718 413,75	2 665 274,31	2 644 943,07	2 757 921,11
Salaries under civil-law contracts and contract agreements for personnel performing core medical services [PLN]	1 852 482,11	1 818 306,34	1 963 400,30	1 847 155,60	1 774 144,61	1 815 680,33

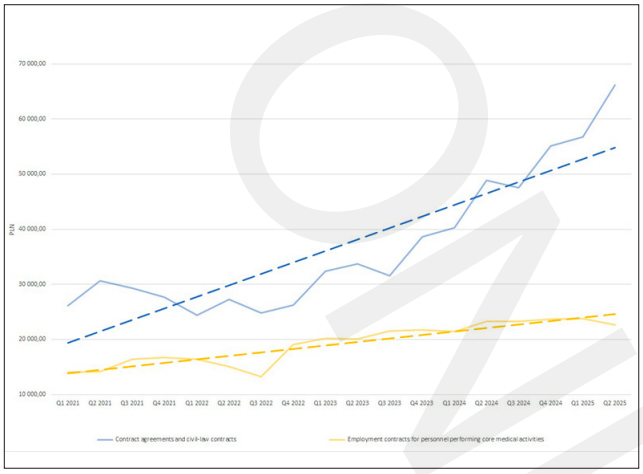

Figure 5. Fragmentation of contracted FTEs

that reimbursement models influence structure, processes and outcomes in multiple ways, and that misalignment between costs and tariffs can lead to risk selection, service limitation or underprovision of resource intensive care [21]. OECD analyses of provider payment reform similarly emphasize that payment levels and adjustment mechanisms must reflect underlying cost dynamics if health systems are to preserve access and provider solvency, particularly in primary and outpatient care [22]. The strong and growing share of personnel costs in our study, especially for contracted physicians, suggests that current NHF tariff setting does not adequately accommodate wage trajectories mandated by national regulation.

An alternative interpretation of the observed deterioration in financial performance is that personnel costs may be disproportionately high relative to the revenues generated by the provider, reflecting potential inefficiencies in workforce structure or service organization. This perspective warrants consideration, particularly given the dominant share of labour costs in total expenditures. However, several findings argue against a primarily provider-specific inefficiency explanation. First, the provider maintained a stable organizational structure, management continuity and service portfolio throughout the study period, while personnel headcount remained relatively constant. Second, the most pronounced cost increases were observed in categories largely determined by external factors, including statutory wage indexation for healthcare employees and rapidly rising market prices for contracted physicians, rather than discretionary staffing expansion. Third, the temporal alignment between national regulatory changes, labour market pressures and subsequent cost escalation suggests that personnel cost growth was driven predominantly by exogenous constraints rather than by an imbalance between productivity and remuneration at the provider level. Taken together, while the possibility of relatively high personnel costs cannot be fully excluded, the available evidence indicates that the mismatch between revenues and expenditures is more plausibly explained by systemic reimbursement and labour market dynamics than by internal cost inefficiency.

The policy ambition to shift services from hospitals to outpatient settings also needs to be considered in light of the results of the current study. International evidence indicates that substituting inpatient with outpatient care can reduce episode level costs under certain conditions, for example, in outpatient hysterectomy or day surgery, provided that reimbursement, infrastructure and staffing models are adapted accordingly [23,24]. Rieder et al., based on expert interviews from Germany and Switzerland, argued that a financially sustainable shift toward hospital-based outpatient care requires transparent cost accounting, careful redesign of processes, and explicit adjustments in payment levels and structures [25]. In the presented study, however, the outpatient provider already operates with very high and rising personnel cost shares and insufficient NHF coverage, which may limit its capacity to absorb additional, more complex procedures without jeopardizing economic stability.

Finally, broader trends in the financialisation and consolidation of outpatient care across OECD countries provide an important macro-level context. Recent analyses have shown that outpatient specialized services, particularly in areas such as radiology, laboratories and dental care, have increasingly become targets for private equity and corporate investors, partly because public payers provide stable revenue streams while small providers face capital and cost pressures [26]. If public outpatient entities remain systematically under-funded relative to their cost base, this may accelerate consolidation and shift ownership structures in ways that further complicate the implementation of an inverse care pyramid within a predominantly public system. The findings of the current study highlight that without better alignment between wage regulation and NHF tariffs, and without more responsive contracting frameworks, the intention to strengthen outpatient care may conflict with the economic realities faced by frontline providers.

Beyond financial and organisational performance, patient satisfaction is a key dimension of the healthcare system functioning in Poland. Recent evidence shows that satisfaction is shaped by both structural factors and patient-level characteristics, with notable variation between different types of providers and services [27].

Although the present analysis is based on a single public outpatient provider, the relevance of the findings extends beyond an idiosyncratic organizational case. The studied institution was characterized by organizational continuity, a stable service portfolio and unchanged ownership and governance structure throughout the observation period. This relative internal stability allows the observed financial trajectories to be interpreted primarily as a response to external regulatory, labour market and reimbursement conditions rather than as an artifact of managerial deterioration or episodic organizational failure.

Importantly, the key drivers identified in this study statutory wage indexation for healthcare personnel, rapidly increasing market prices for contracted physicians and insufficient adjustment of National Health Fund tariffs are exogenous to individual provider management, and apply uniformly across publicly financed outpatient providers operating under comparable contractual frameworks. The consistent temporal alignment between national policy changes, wage regulations and subsequent cost escalation supports the interpretation that the observed deterioration in operating margins reflects systemic rather than provider-specific factors.

From this perspective, the single-provider design serves as an analytical lens to isolate and illustrate structural mechanisms that are otherwise difficult to disentangle in multi-centre datasets characterized by heterogeneous

organizational responses. While the magnitude of effects may vary across settings, the direction and nature of the identified pressures are likely transferable to other public outpatient providers facing similar regulatory and labour market environments. Consequently, the lessons derived from this case are relevant for policy discussions on outpatient financing, tariff setting, and the feasibility of shifting care from inpatient to ambulatory settings without undermining provider solvency.

Limitations of the study. Several limitations should be considered when interpreting the findings of this study. First, the analysis is based on data from a single public outpatient healthcare provider operating in a semi-urban setting. Although the provider maintained a stable organizational structure and consistent service profile, the results may not fully reflect the financial dynamics of outpatient facilities operating in different regional, demographic or organizational contexts. Caution is therefore required when generalizing these findings to the broader outpatient sector in Poland.

Second, the study relies exclusively on retrospective secondary data extracted from HIS and ERP systems. These administrative datasets are designed primarily for operational and financial reporting rather than research purposes. As such, they may lack granularity in certain cost categories, contain timing discrepancies inherent to accounting systems or omit contextual variables that could influence financial outcomes. Although internal consistency checks were conducted, the research team was limited by the structure and completeness of the available data.

Third, the analysis covers a period characterized by extraordinary external pressures, including the post-pandemic recovery, high inflation, multiple statutory wage adjustments and several rounds of NHF tariff revisions. These concurrent macro-economic and regulatory events make it difficult to isolate the specific causal contribution of individual factors to the observed financial trends. The study identifies associations and temporal patterns but cannot formally establish causality.

Fourth, no comparative group was included. The absence of benchmarking against other outpatient providers or hospitals limits the ability to distinguish organization-specific effects from broader system-level dynamics. Comparative analyses involving multiple providers could offer deeper insight into whether the observed trends are typical across the sector or specific to this setting. Finally, the study focuses on economic and operating indicators and does not assess potential implications for service quality, patient access or clinical outcomes. While financial sustainability is a key dimension of health system performance, future studies should integrate economic data with measures of care quality and patient experience to provide a more comprehensive evaluation of the impact of financing pressures on outpatient service delivery.

CONCLUSIONS

This retrospective analysis demonstrates a progressive deterioration in the financial position of a public outpatient provider between 2021–2025, despite steady growth in National Health Fund (NHF) revenues. The key finding is a persistent gap between revenue growth and much faster escalation of operating costs, driven primarily by statutory wage increases and the rapidly rising cost of contracted medical services. Personnel expenditures accounted for over 80% of total costs and increased at a pace exceeding both revenue dynamics and general inflation. Consequently, operational profitability declined markedly, with NHF revenues covering total monthly costs in only a minority of months and with high volatility. The growing reliance on contracted medical services further intensified financial pressure, as average contractor FTE costs more than tripled over the study period. These findings indicate systemic challenges in the publicly financed outpatient sector in Poland and raise concerns about the feasibility of expanding outpatient care under the inverse care pyramid without parallel reforms in tariff setting and financing mechanisms.

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