


# Administration of Healthcare Institutions in Modern Conditions: The Experience of Applying the Medical Coworking Model for Pediatric Outpatient Clinic

*Gestão de instituições de saúde nas condições atuais: a experiência da aplicação do modelo de coworking médico em ambulatórios pediátricos*

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## Resumo

A gestão de instalações de saúde é um processo complexo que requer revisões e controles constantes devido às mudanças no sistema de saúde. Um dos fatores de uma gestão eficaz é o coworking médico, mas seu papel não é suficientemente estudado no que diz respeito à centralização no paciente e à otimização do fluxo de trabalho. É por isso que o objetivo do estudo foi examinar o impacto do coworking médico na eficiência da gestão de instalações de saúde. O estudo utilizou o método bibliográfico e analítico, bem como métodos de análise, síntese, comparação lógica e estatística. Foram identificadas as formas de influência do coworking médico nos princípios de gestão, nomeadamente a orientação ao paciente e a otimização do fluxo de trabalho. Após analisar a satisfação dos pacientes com os cuidados médicos em 4 clínicas pediátricas em Kiev, determinou-se que atribuíram uma classificação mais elevada às instituições com coworking médico desenvolvido.

**Palavras-chave:** colaboração, equipe médica, tecnologia, gestão eficaz, centralidade no paciente

## Abstract

*The management of healthcare facilities is a complex process that requires constant review and oversight, considering changes in the healthcare system. One factor in effective management is medical coworking, but its role in achieving the principles of patient-centeredness and optimizing workflow has not been sufficiently studied. That is why the study examined the impact of medical coworking on the efficiency of healthcare facility management. The study used bibliographic and analytical methods, as well as methods of analysis, synthesis, logical comparison, and statistical comparison. How medical coworking influences management principles, namely patient orientation and workflow optimization, was identified. After analyzing patient satisfaction with medical care across four pediatric clinics in Kyiv, it was determined that patients gave higher ratings to institutions with well-developed medical coworking.*

**Keywords:** collaboration, medical staff, technology, effective management, patient-centeredness

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## Introduction

The administration of healthcare facilities involves providing quality medical services at optimal costs. However, effective management of a healthcare facility is complex, requires considerable effort, and constant adaptation to new challenges. After all, modern medicine is constantly being reformed, the number of medical devices and pharmaceutical advances is increasing, and patients' requirements for the quality of medical care and financing of the medical system are changing (Anderson, 2022). That is why there is no ideal, universal model of effective hospital management. Still, the urgency of the problem stimulates the search for new approaches and administrative models to improve the organization of medical activities in modern society. While considerable attention has been paid in recent years to medical innovations and patient-centeredness, the issue of medical coworking remains insufficiently studied, especially in pediatric outpatient clinics. In the current conditions of the development of private medical practices, cooperation among independent doctors of different specializations within a single medical institution can be a new and promising direction for clinic administration. The novelty of the research lies in the creation of the Association of Medical Professionals (AMP), which regulates the interactions among doctors within the framework of medical coworking. The Association ensures the functioning of independent doctors as a holistic system. The research examined the impact of medical coworking, specifically the involvement of the Association of Medical Professionals, on the efficiency of pediatric outpatient clinic management, focusing on optimizing work processes and patient satisfaction.

## Literature Review

The main principles of effective medical management include a patient-centered approach, compliance with national and international standards of medical services, and the achievement of the stated goals of a particular hospital (optimization of costs, high-quality staff, the introduction of innovative technologies, etc.). A patient-centered approach is definitely necessary, as the patient's condition is the primary focus of the medical service. Moreover, the results of patient satisfaction monitoring have the most significant impact on hospital performance (Bogodistov et al., 2022). After all, most global medical systems allow patients to choose a doctor and hospital for medical interventions. The level of patient satisfaction, in turn, depends on the quality of medical services and interactions with the doctor (Liu et al., 2021). A trusting relationship with a doctor is essential for ensuring the quality of medical care and effective treatment, because if communication is not successful, there is a risk of incorrect implementation of recommendations, which negatively affects treatment outcomes (Conradsen et al., 2023).

In addition to establishing a trusting relationship between the patient and the doctor, the interaction of doctors and nurses with the clinic administration is equally important. After all, ethical and competent leadership that considers the needs of the team contributes to achieving the institution's strategic goals, including patient satisfaction (Varga et al., 2023). This is because trusting, open relationships between staff and management enable them to receive patient feedback and respond to individual requests. Another incentive factor is improved productivity among medical staff under positive, fair management and optimal workflow organization.

According to recent literature, the effectiveness of hospital management depends on criteria of flexibility and innovation that facilitate adaptation to new challenges of the present and help overcome crisis situations (Walden et al., 2022). That is why society's demands for healthcare services have led to an increase in the number of healthcare facilities across various forms of ownership and to the decentralization of the healthcare sector, which has increased competition in the healthcare market. Private healthcare facilities provide a wide range of services, employ business management strategies, engage in marketing, and use new medical equipment and technology (Naamati Schneider, 2021). In contrast, public institutions have limited financial and resource capacities. Therefore, the introduction of innovations is often delayed, financially costly, and requires additional measures to adapt the work in the clinic and to train staff. On the other hand, manufacturability affects patient satisfaction and helps to optimize workflows (Wang et al., 2024). However, the medical aspect of digital health requires cooperation among medical staff, hospital administrators, and technology developers, as well as staff training in the basics of information technology and in technology compliance with ethical standards (Kim et al., 2021; Zhang & Zhang, 2023).

Digital innovations have proven effective in healthcare facility crisis management, including telemedicine, which was a lifesaver during the pandemic, when outpatient clinic visits carried a high risk for patients and their parents. Online consultations prevented hospital visits for patients who could receive medical care remotely without the risk of complications (Belcher et al., 2021). Although the potential of telemedicine remains limited due to challenges in examination and palpation, it should not be underestimated, particularly for repeated consultations to monitor treatment response and for counseling (Jassim et al., 2022).

Despite the importance of relationships among medical staff in achieving the hospital's strategic goals and patient-centeredness, the topic of medical coworking is not sufficiently covered (Pettersen, 2025). Although medical coworking is an essential factor in the effective administration of healthcare facilities, which involves creating a professional, multidisciplinary space, existing barriers and outdated attitudes, despite working side by side, do not ensure true interaction among medical staff (Zook & Sailer, 2022). Given the stress and overload experienced by healthcare workers, which peaked during the pandemic, the authors emphasized the importance of creating a supportive workspace, but the focus shifted to creating spaces for socializing and recreation (Alfowzan et al., 2024). Although the number of outpatient clinics, including children's clinics, has increased dramatically in recent years, the main management focus has been on technological support, creating an adaptive environment that meets children's needs, while insufficient attention has been paid to medical coworking (Zamani, 2023; Lu et al., 2022). That is why studying the impact of medical coworking on the efficiency of healthcare facilities management is relevant and necessary.

The study aimed to investigate the impact of medical coworking on management efficiency at a pediatric medical institution, with a focus on patient care and workflow optimization.

## Materials and Methods

The study used bibliographic and analytical methods to analyze research in the scientific and metric databases Scopus, PubMed, and Google Scholar on a given topic. How medical coworking influences the basic principles of effective management of a medical institution was identified and systematized. The authors monitored the effectiveness of coworking in terms of patient focus and workflow optimization. To do this, the authors randomly selected four clinics in Kyiv, from both the public and private sectors, with developed and unused medical coworking spaces, using the Microsoft Store. For this purpose, the list of clinics in Kyiv was selected. The inclusion criteria were state children's outpatient clinics, private children's outpatient clinics, children's outpatient clinics with developed coworking and involvement of the Association of Medical Professionals (AMP), children's outpatient clinics without involvement of medical coworking, and outpatient clinics for children and adults. Statistical data were obtained from clinic management and open-source sources (clinic websites and the platform <https://doc.ua/ua/doctors/kyiv/all>). To avoid a conflict of interest, the clinics' names are not disclosed. The consent of the clinic management to publish information about the clinic under the condition of anonymity was obtained. Statistical analysis was performed using the STATA.12 program with ANOVA analysis of variance. The results of the study were considered reliable at  $p < 0.05^*$ . The results were presented in tables and graphs.

## Results

Based on the literature review, the authors analyzed the main principles that contribute to the effective management of medical institutions, including effective management of the healthcare system, collaboration among doctors' practices, and pediatric care. The authors analyzed publications from the past 6 years, including relational studies based on surveys of patients, doctors, and managers, as well as quantitative indicators for monitoring the performance of medical institutions. The ways in which coworking can influence the achievement of the basic principles of successful management of medical institutions were identified (Table 1).

**Table 1**

*Impact of medical coworking on achieving the basic principles of effective medical administration*

Principle of effective management	Impact of medical coworking
Patient-centeredness	Multidisciplinary care in a single medical facility, which improves treatment outcomes, reduces the time required to make decisions on treatment tactics, and provides convenience of care, which is especially appreciated by parents in pediatric practice
Compliance with standards	Providing multidisciplinary medical care accessible to the public
Creating a favorable atmosphere in the team	Collegiality of decision-making increases doctors' confidence, reduces stress in difficult clinical cases, helps to improve the level of qualification at the intersection of specialties, and provides feedback after consultations by related specialists within the same clinic

Principle of effective management	Impact of medical coworking
Creating optimal working conditions	Effective coworking involves specialists who most often perform differential diagnosis of diseases of related categories, so the number of patients seen by different specialists increases, which generally optimizes the doctor's working time
Financial feasibility	The patient continues treatment within the same facility, and when receiving quality care, trust in the staff and the authority of the clinic as a whole increases. As a result, there is a high likelihood of repeat visits, as well as positive feedback on various platforms. By renting out premises, in terms of attracting diagnostic tools, clinic management can reduce the cost of expensive equipment
Competitiveness	Co-working of public institutions with private diagnostic and laboratory companies allows public hospitals to compete with private multidisciplinary clinics offering a wide range of medical services using high-tech equipment within one institution
Technology	In the context of growing digitalization, coworking can take on new forms in the form of remote consultations, shared access to examination results, and real-time treatment monitoring

Source: Created by the author based on Zook and Sailer (2022); Pettersen (2025)

In order to determine quantitative indicators of the performance of medical institutions, a comparative analysis was conducted among the state children's general practice clinic without developed coworking (clinic 1), a private children's general practice clinic without developed coworking (clinic 2), a private children's clinic with developed coworking with AMP (clinic 3), and a private clinic for adults and children with developed coworking with AMP (clinic 4) in Kyiv. . . The main characteristics of the clinics are presented in Table 2. To determine the impact of patient-centeredness, the authors analyzed patient satisfaction based on reviews on the open Internet platform doc.ua for the period January-March 2025. To determine the optimization of working hours, the authors examined the average duration of doctors' appointments in clinics.

**Table 2**

*Characteristics of clinics by doctors' qualifications and technology development*

Clinic number	1	2	3	4
Number of pediatricians	7	6	14	10
Number of therapists	0	0	0	8
Number of related specialists	0	0	6	12
Association of Medical Professionals (AMP)	-	-	+	+
Availability of an intra-hospital electronic queue	+	+	+	+
Availability of an in-hospital electronic system of documentation and waiting lists	-	+	+	+
Total number of medical appointments during the study period	2955	3087	3290	4980

Source: Created by the author based on information provided by the clinic management



The results of patient satisfaction are presented in Table 3. A comparative analysis between groups was conducted using ANOVA. Only the ratings on the review site were considered without analyzing the content of the patients' feedback. The rating scale on the website included a 5-point system, with 5 being the highest score.

**Table 3**

*Average level of patient satisfaction with medical care in clinics*

Clinic	Average level of satisfaction with the appointment	Standard deviation	F	P between groups
1	3.69	0.94	4.32	P(1-2) < 0.05* P(1-3) < 0.01* P(1-4) < 0.01*
2	4.05	0.52		P(2-1) < 0.05* P(2-3) < 0.01* P(2-4) < 0.01*
3	4.78	0.47		P(3-1) < 0.01* P(3-2) < 0.01* P(3-4) = 0.07
4	4.36	0.61		P(4-1) < 0.01* P(4-2) < 0.01* P(4-3) = 0.07

Source: Created by the author based on open data from the doc.ua platform

As can be seen from the table, the best patient feedback was observed at the private children's clinic with developed medical coworking and with AMP ( $4.78 \pm 0.47$ ). Instead, the lowest score was given to the state children's general practice clinic without medical coworking ( $3.69 \pm 0.94$ ). This may be due to the lack of an electronic record-keeping system in state outpatient clinics. These conclusions can be drawn from the analysis of patients' feedback, who reported problems with the length of time it takes to process medical records. At the same time, when comparing clinics without medical coworking and with developed ones, with AMP lower scores were found among state clinics ( $3.69 \pm 0.94$  (clinic 1) vs.  $4.78 \pm 0.47$  (clinic 3) ( $p < 0.01^*$ ) and private ones ( $4.05 \pm 0.52$  (clinic 2) vs.  $4.78 \pm 0.47$  (clinic 3,  $p < 0.01^*$ )). This may be evidence of the positive impact of AMP, a form of medical coworking, on patient orientation. Regarding the combination of children and adult departments, no positive effect was found compared to the children outpatient clinics with AMPt  $4.36 \pm 0.61$  (Clinic 4) vs.  $4.78 \pm 0.47$  (Clinic 3),  $p = 0.07$ .

To determine the impact of medical coworking on optimizing medical staff work, the authors analyzed the average duration of patient appointments in clinics without coworking (clinics 1 and 2) and developed coworking with AMP (clinics 3 and 4). Table 4 shows the average duration of patient appointments in clinics 1-5.

**Table 4**

*Results of comparing the average length of patient appointments*

Clinic	Average duration of an appointment	Standard deviation	F	P between groups
1	35.38	7.62	14.98	P(1-2) = 0.21 P(1-3) < 0.01* P(1-4) < 0.01*
2	33.09	8.41		P(2-1) = 0.21 P(2-3) < 0.01* P(2-4) < 0.01*
3	21.95	8.73		P(3-1) < 0.01* P(3-2) < 0.01*
5	21.35	9.07		P(3-4) = 0.81 P(4-1) < 0.01* P(4-2) < 0.01*
				P(4-3) = 0.81

Source: Created by the author based on statistical calculations

As can be seen from the statistical analysis, the appointment duration was highest in clinics 1 and 2 at both the public and private levels, without medical coworking. It amounted to 35.38 + 7.62 in clinic 1 and 33.09 + 8.41 in clinic 2, respectively ( $p(1-2) = 0.21$ ). In contrast, clinics 3 and 4 with AMP had lower patient appointment times: 21.95 + 8.73 in clinic 3 and 21.35 + 9.07 in clinic 4, respectively ( $p(3-4) = 0.81$ ). Thus, medical coworking in form of AMP helps to reduce the duration of patient appointments, which was proved by a significantly ( $p < 0.05^*$ ) lower time of patient appointments in general practice clinics (clinics 1 and 2) compared to multidisciplinary clinics (3 and 4), respectively 35.38 + 7.62 in clinic 1 and 33.09 + 8.41 in clinic two against 21.95 + 8.73 in clinic 3 and 21.35 + 9.07 in clinic 4. Reducing the duration of patient appointments is an objective indicator of the optimization of doctors' working time in medical facilities with implemented medical coworking.

## Discussion

Our research has revealed the positive impact of the Association of Medical Professionals on the basic principles of effective healthcare facility management. The benefits of medical coworking are evidenced by a review by the National Academies of Sciences, Engineering, and Medicine (2023), which emphasizes the following problems with existing models of pediatric clinic administration in the United States. Namely, the issues of coordinating the activities of primary care physicians and subspecialists, the lack of feedback between them, the need to train primary care physicians and subspecialists to work together, and the financial ineffectiveness of engaging a subspecialist when remote consultation is possible. The above problems pose an obstacle to quality, affordable healthcare and increase the workload of

subspecialists. Instead, coworking in a medical facility or in the format of online consultations and conferences would allow to transfer some of the diagnostic and therapeutic procedures to the primary care, which would reduce the burden on subspecialists and multidisciplinary hospitals in general, the financial burden on the health care system, and increase the awareness of primary care physicians about nosologies at the intersection of specialties, as well as methods of their diagnosis and treatment (Lax et al., 2021; Price et al., 2020). Medical coworking includes not only cooperation between doctors but also with pharmacists; the role and success of this cooperation have been demonstrated especially during the coronavirus pandemic (Waszyk-Nowaczyk et al., 2021).

The results of our study revealed a decrease in the duration of specialist appointments in a multidisciplinary medical facility, which may be due to direct communication between doctors and indicates optimization of doctors' working time. As a result of the reduction in the duration of patient appointments, the financial feasibility of doctors' working hours increases, allowing more patients to be seen in clinics with developed coworking spaces. However, it is not only the cooperation of doctors that positively impacts the efficiency of the organization of the medical staff's working time. The study by Edwards et al. (2024) demonstrated that collaboration between a doctor and a writing assistant reduces the duration of a patient's appointment. The study by Park et al. (2021) found lower doctor workload and shorter treatment duration for patients with the same diagnoses in multidisciplinary hospitals compared to single-specialty hospitals. On the other hand, disagreements among doctors of different profiles contributed to discussions and ongoing professional growth.

Instead, our study demonstrated greater patient satisfaction with medical services in multidisciplinary facilities that develop coworking spaces and promote technology in healthcare facilities. The study by Ferry et al. (2021) demonstrated an increase in the productivity of healthcare facilities, particularly in the HR department's work, because of the introduction of technology. Mane et al. (2022) also emphasized the effectiveness of administrative models that integrate digital technologies, reengineer medical processes, and apply advanced data analytics to improve the quality of healthcare services and meet patient needs. Kwon et al. (2022) determined that the digitalization of the healthcare industry creates new opportunities to measure medical indicators and share information, thereby helping optimize the work of healthcare facilities.

Limitations of our study included a short analysis period and a limited number of clinics. In future studies, the authors plan to collaborate with additional pediatric clinics with AMP in different cities in Ukraine to expand monitoring of the efficiency of medical facility administration through the introduction of medical coworking. The prospect of further research is to determine the impact of combining medical coworking with the implementation of digital innovations on increasing the productivity of medical institutions.



## Conclusions

The study identified ways to positively influence medical coworking to achieve the strategic goals of a medical institution, namely patient focus, workflow optimization, financial feasibility, compliance with medical standards, competitiveness, and a favorable atmosphere. The importance of medical coworking was substantiated by its role in achieving the strategic goals of patient focus and optimizing work processes. In particular, the authors identified higher satisfaction among patients who received care in clinics with AMP, where cooperation among medical specialists is well developed. The positive impact of medical coworking on workflow optimization was demonstrated: the authors found significantly shorter patient appointment durations in clinics with developed medical coworking, such as AMP, compared to general medical institutions. This helps to optimize the doctor's working time and increases the number of patient appointments.

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