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SUSTAINABILITY AND GREEN MANAGEMENT IN HOSPITALS*

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Abstract. Public sector organizations are also increasingly focusing on assessing the environmental impact of their activities. Sustainable principles in hospitals mean ensuring high-quality, safe, cost-effective care that minimizes negative impacts on society and the environment. Efficiency and rationalization of production resources are essential conditions for sustainable healthcare. The approach of hospitals to sustainability is thus changing. Hospital management is adopting management and strategy development approaches that integrate elements of green management. Despite the growing importance of environmental management in hospitals, this area remains insufficiently researched in the Czech Republic, representing a significant research gap. The article, therefore, aims to map and assess the extent to which elements of green management are used in hospitals in the Czech Republic, focusing on environmental strategy, energy management, and employee training in sustainability issues. The research was nationwide in scope and covered all hospitals in the Czech Republic. Fisher's exact test was used for statistical verification of the proposed hypotheses. The results showed no statistically significant correlation between hospital size and the presence of an environmental policy or strategy. Although hospitals with a defined environmental strategy are more likely to address energy savings, the difference between the groups was not statistically significant. On the contrary, it was confirmed that hospitals with an environmental policy significantly more often and more systematically implement training or education of employees in the area of sustainability.

Keywords: energy; environmental strategy; green management; healthcare organizations; sustainability

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1. Introduction

In recent decades, global environmental issues have reached alarming levels, posing significant threats to ecosystems, human health, and economic stability (Tanveer et al., 2025). Hospitals are one of the most important elements of the public sector and play a crucial role in every country's healthcare system. Healthcare facilities are pivotal in ensuring continuous access to services, particularly for individuals with complex health conditions (Tjebane & Musonda, 2025). On the other hand, hospitals play a key role in contributing to environmental degradation, as they produce biological, pharmaceutical, chemical, and radioactive waste that poses significant health risks (Zikhathile et al., 2022). Waste disposal poses a potential risk to the environment, which is why waste collection from healthcare facilities is a key environmental issue (Lattanzio et al., 2022). In the Czech Republic, hospitals are classified according to size as large (500 or more beds), medium (101-499 beds), and small (fewer than 100 beds). This classification was also the categorization criterion for nationwide research.

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The importance of these entities can also be assessed from a microeconomic perspective, where adequate healthcare increases the population's productivity and reduces losses to businesses caused by long-term sick leave. The macroeconomic significance is also key, as the healthcare sector is one of the largest employers and expenditure is a significant item in public budgets.

From this perspective, the healthcare sector is considered very complex due to the interdependencies between its various entities that provide care to patients and the population (Larsen et al., 2021). The rapid increase in healthcare costs has drawn the attention of managers and policymakers towards regulating health expenditures: many countries have implemented deep reforms to improve efficiency and productivity in the provision of health services (Fulgenzi & Gitto, 2024). The main objective of these entities is to provide high-quality care to patients while rationalizing resources, not only financial ones.

The management of healthcare facilities has its own specific characteristics, as in addition to the main goal of providing high-quality medical and nursing services, there is also a financial and economic goal. The management of healthcare facilities and a properly set strategy are essential for the effective provision of healthcare. Healthcare in the Czech Republic is one of the areas where insufficient attention has been paid to the environmental impact of the organization's operations. In recent years, there has been growing pressure to improve all processes, increase the quality of healthcare, and implement sustainability principles in the hospital sector (Ahlstrom et al., 2025; Zeferino et al., 2025). Good management practice has long been seen as critical to improving the performance, quality, and efficiency of healthcare systems (Ban et al., 2024). Better hospital management practice has been shown to correlate with improved clinical quality and performance (Dorgan et al., 2025). Hospital management practices are of fundamental importance in reducing costs, improving the quality of healthcare, and thus increasing customer satisfaction among the population. Hospital management is quite complex due to constant challenges involving clinical, economic, managerial, and humanitarian aspects (de Oliveira, 2024).

The reason why it is important to address sustainability issues in hospitals is simple. Hospitals operate continuously, 24/7, and use energy-intensive technologies (diagnostic equipment, sterilization, cooling, heating, ventilation) (Lattanzio et al., 2022). Green management is therefore particularly important in hospitals, as their operations and medical technologies make them among the most energy-intensive public facilities. The introduction of sustainable and environmentally friendly energy-saving measures can significantly reduce operating costs, lower the carbon footprint, and contribute to national and EU climate goals. At the same time, efficient energy management supports the sustainable development of healthcare services by freeing up resources that can be redirected to patient care and technological improvements.

2. Literature review

Environmental aspects of sustainable healthcare

At a time when environmental issues are more pressing than ever, organizations are increasingly recognizing the importance of integrating sustainability into their core practices (Tanveer et al., 2025). Sustainability refers to development that meets current needs without compromising the needs of future generations (Malik et al., 2021). Sustainability issues are crucial in today's competitive environment (Riaz et al., 2025). In response to these current environmental and resource economy challenges, sustainability is becoming a strategic goal for hospitals. Sustainability represents a balance between production and consumption with regard to the rationalization and economy of input resources. According to Olawumi and Chan (2018), environmental sustainability is the practice of preserving ecosystems through responsible consumption and replenishment of the natural resources that support life on the planet. Sustainable healthcare means providing affordable, quality medical care without causing undue environmental damage (Rahat et al., 2024). Environmental strategy can be defined as a series of initiatives that aim to reduce the operational impacts on the environment through the company's products, processes, and policies using sustainable resources and environmental management systems (Leyva & Parra, 2021). The integration of green and sustainable principles into an organization's strategy undoubtedly has an impact on competitiveness and economic growth in the long term (Bashar et al., 2025; Jianbing et al., 2025; Zhang & Zhu, 2025). Accordingly, incorporating environmental sustainability into

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healthcare services poses a unique challenge since hospitals must strike a balance among service quality (i.e., clinical quality and patient experience), cost efficiency, and environmental footprints (Han et al., 2024).

From a sustainability perspective, hospitals contribute to all three pillars. Healthcare facilities have an impact not only on the health and productivity of the population, but also on the economy, the environment, and social stability. The three dimensions of sustainability (economic, environmental, and social) influence how people perceive and strive for sustainability in their environment (Alsawaf & Albadry, 2022). In terms of material and energy consumption, hospitals are among the most demanding public institutions. They produce large amounts of waste and consume significant amounts of water and electricity. The healthcare sector is responsible for 5% of the carbon footprint in the member countries of the Organization for Economic Cooperation and Development (Pichler et al., 2019). The integration of sustainable practices into hospital management, including energy-saving and environmental initiatives, improves the overall sustainability of hospitals (Dion & Evans, 2024).

Green management practices are essential for organizational sustainability, and their adoption in hospitals can help reduce environmental impact (Yassin et al., 2025). Green management refers to a philosophy, technology and methodology of organization management aimed at optimizing the effect of its operation on the environment. Its principal goals are economical use of materials, energy and other resources, economical processes and the reduction of factors posing a burden for the environment (Scholz et al., 2022). Green management in hospitals involves a combination of sustainable and environmentally friendly practices aimed at reducing the environmental impact of these organizations. Studies (Alhemimah et al., 2025; Saipidinov et al., 2025) examine the complex impacts of green management as an essential element of business for all types of organizations and its influence on environmental, economic, and social performance. Environmental sustainability (ES) is increasingly important in healthcare because it promotes more efficient operations and cost savings. A study (Vaishnavi & Suresh, 2023) examines the factors that improve ES performance in hospitals and offers insights for professionals on how to implement effective environmental practices.

Energy saving strategies and environmental impacts of hospitals

Healthcare facilities, which are crucial to society, pose particular challenges in terms of energy sustainability due to their continuous operation and strict hygiene standards (Silva et al., 2024). Among the environmental issues to be addressed are the high levels of energy consumption and waste production, as well as the inefficient use of resources encountered by traditional healthcare systems.

Hospitals are among the most energy-intensive buildings, operating non-stop throughout the year. This requires a stable supply of electricity, heat, and water, which leads to increased energy consumption. The healthcare sector contributes significantly to the increase in greenhouse gases, so it is essential that hospital facilities increase their energy efficiency and introduce renewable energy sources (Schwab et al., 2025). This claim is supported by a study by Darko et al. (2017), which adds that hospitals are the second largest consumers of energy after offices and a significant contributor to emissions from the incineration of medical waste. Therefore, special attention must be paid to the design and construction of hospital buildings (Aini et al., 2023). The implementation of energy-saving measures, such as green energy and consumption optimization, is key to reducing the carbon footprint of hospitals. Hospital buildings have special significance in every society because the way this type of building is designed, constructed, and operated has a profound impact on human health and the environment. There is growing interest in this sector, which deals with health aspects and sustainable construction to ensure compatibility with human health and surrounding natural environmental systems (Alsawaf & Albadry, 2022). Green innovations are a mechanism that can mitigate industrial pollution and minimize environmental impacts that are harmful to various industries, including hospitals (Takalo & Tooranloo, 2021).

Energy savings can help hospitals strengthen their resilience both economically (energy is a significant item of operating costs) and in terms of safety (savings help ensure operations in crisis situations). The main elements of these measures often include building insulation, energy-efficient lighting, smart consumption management, photovoltaics, etc. A significant innovation in building energy savings is the integration of artificial intelligence into energy management. In Europe, AI is transforming healthcare and energy management across the European

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Union's 27 member states (Pariso et al., 2025). As demonstrated by the study by Secinaro et al. (2021), the synergy between AI, hospital facilities, and energy management is paving the way for smarter, greener, and more efficient healthcare systems worldwide, contributing significantly to global sustainability goals and improved patient outcomes.

Green HRM strategy and employee training

Human resource management plays an important role in promoting sustainability; organizations are therefore increasingly focusing on individuals who are interested in green practices through the adoption of green human resource management and the potential it offers for achieving sustainability and building competitiveness (Allam & Mansour, 2024; Laužikas et al., 2025). The human resources department is one of the strategic resources within an organization (Atmoko et al., 2024). In the field of human resource management, green management is one way to set up systems to ensure environmental protection. Green management in human resource management integrates environmental goals into HR processes, which includes recruitment, training, compensation, and overall employee management. Green human resource management (GHRM) embodies a strategic fusion that not only advocates for environmental conservation but also aligns with the overarching goals of organizational performance. It is a discipline that requires the development of strategic policies and the execution of plans that are inherently eco-centric, fostering a workforce that is both environmentally conscious and operationally competent (Uslu et al., 2023; Chilunjika, & Uwizeyimana, 2024).

Green human resource management practices promote environmentally friendly behavior among employees and improve the overall sustainability of hospitals (Tassema et al., 2025). Training employees in sustainability and rational use of inputs is one of the key tools for maintaining environmental measures. Training helps change employee habits and behavior and increases motivation and responsibility. Roscoe et al. (2019) report that the implementation of green management in human resource management improves the long-term viability of an organization and its impact on the environment. Other studies that examine the impact of green management on green behavior among employees include Yadate (2025) and Priyashantha & Priyangaa (2022).

In this study, the authors focused on the link between formal policy required in organizations, practical environmental management, and people involvement. Although existing studies emphasize the importance of environmental management in the public sector, there is a lack of empirical evidence on how the implementation of environmental policies or strategies in hospitals translates into concrete measures, such as energy-saving measures and employee training in sustainability. Furthermore, most research focuses on the industrial context and business practices, while hospitals remain under-researched despite their high energy consumption and social role. This study aims to fill this gap by analyzing whether medium-sized and large hospitals with environmental policies are more likely to actively implement energy-saving measures and sustainability training.

3. Methodology

The aim of this article is to map the approaches and elements of Green Management in hospitals in the Czech Republic. In order to establish the theoretical basis for the research part, it was necessary to conduct a thorough analysis and synthesis of available literature sources and foreign studies. Contact details for hospital facilities were taken from the database of the Czech Ministry of Health. The basic categorization criterion was the size of the hospital according to the number of beds. First, the author team was interested in whether the hospital had an environmental policy or strategy in place. The author team's assumption was that large and medium-sized hospitals would meet this criterion. Based on an analysis of professional literature studies, it was proven that hospitals are very energy-intensive. The second research question was therefore to verify whether hospitals are actively seeking ways to save energy. People are a key element in the process of health and nursing care, so the last research question focused on the training of medical staff. Based on these hypotheses, a questionnaire with closed questions was compiled and sent to hospitals via the online tool Survio. The research sample consisted of 160 hospitals, with 31 correctly completed questionnaires returned, representing a response rate of 19%. The data was processed using general descriptive statistics, and Fisher's exact test was used to verify the hypotheses.

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Based on the set objective, the team of authors was interested in whether the hospital sector has defined formal tools, policies, or strategies; how these strategies relate to practical measures (energy savings); and how these strategies affect the human factor. Three research questions were therefore formulated. These were subsequently verified by a quantitative questionnaire survey.

RQ1: Medium-sized and large hospitals have an environmental policy or strategy in place.
RQ2: Hospitals that have a defined environmental policy or strategy actively address energy savings.
RQ3: Hospitals that have a defined environmental policy or strategy actively train their employees in sustainability.

4. Results and discussion

Based on research questions formulated by the team of authors, two hypotheses were developed for each case. The first hypothesis is the null hypothesis and the second is the alternative hypothesis.

The hypotheses were formulated as follows:

RQ1: Medium-sized and large hospitals have an environmental policy or strategy in place.
H0: There is no statistically significant relationship between the size of the hospital and the existence of an environmental policy or strategy.
HA: There is a statistically significant relationship between the size of the hospital and the existence of an environmental policy or strategy.

The correlation between hospital size (based on the number of beds) and whether the hospital has an officially defined environmental policy or strategy was investigated. The results show that among small hospitals (fewer than 100 beds), only 33.3% (1 in 3) had a clearly defined environmental policy, 66.7% had a partially defined policy, and no hospital reported lacking such a policy. Among medium-sized hospitals (101–499 beds), 38.9% (7 out of 18) had an officially established environmental policy, 55.6% (10 out of 18) had a partially defined policy, and 5.6% (1 out of 18) stated that they did not have an environmental strategy. Among large hospitals (500 or more beds), an official environmental policy was present in 60% of cases (6 out of 10), 40% (4 out of 10) stated that they had a partially defined policy, and no hospital stated that it had no environmental policy at all.

When comparing responses by hospital size, an analysis was performed using Fisher's exact test (due to failure to meet the assumptions for using the chi-square test, as more than 20% of cells had expected frequencies less than 5). The results of Fisher's test did not show a statistically significant relationship between hospital size and the presence of an environmental policy or strategy ($p = 0.746$). **H0 was confirmed.**

Table 1. Association Between Hospital Size and Existence of an Environmental Policy or Strategy

		Does my hospital have a defined environmental policy or strategy?			
		Yes	Yes, partly	No	Total
Hospital size by number of beds	Small	1	2	0	3
	Medium	7	10	1	17
	Large	6	4	0	10
	Total	14	16	1	31

Source: Author's own research

Table 1 provides an overview of the association between hospital size and the existence of an environmental policy or strategy. The contingency table verifies relationship between these variables (Fisher's Exact Test, $p = 0.746$).

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Table 2. The contingency table

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	1,907[a]	4	,753	,746
Likelihood Ratio	2,253	4	,689	,746
Fisher's Exact Test	2,749			,746
N of Valid Cases	31			

[a] 6 cells (66,7%) have expected count less than 5. The minimum expected count is ,10.

Source: Author's own research, 2025

One possible explanation for the insignificant relationship is that smaller hospitals may informally implement sustainability practices without formally documenting them in a written policy or strategy. This suggests that the existence of an environmental policy does not necessarily encompass the full range of green practices in healthcare facilities.

Nevertheless, a number of studies report a positive impact on performance improvement and cost reduction when integrating sustainability into strategies, such as Seifert and Guenther (2019); Seifert et al., (2020); Afsar et al., (2023). The role of hospital facilities in the development and implementation of sustainability strategies related to the provision of healthcare services was then examined in a study by Badanta et al., 2025. We must not forget the recent COVID-19 pandemic, which may have diverted management attention and resources away from sustainability initiatives (Lattanzio et al., 2022), highlighting the need for renewed support and strategic focus in this area.

Determining whether medium-sized and large hospitals have an environmental policy or strategy (RQ1) is a key starting point for assessing whether and how these formally defined documents influence practical sustainability measures. This question is followed by RQ2, which examines whether hospitals with an explicitly defined environmental policy or strategy actively implement measures leading to energy savings, thereby contributing to more efficient and environmentally friendly operations.

RQ2: Hospitals that have a defined environmental policy or strategy actively address energy savings.
H0: There is no statistically significant correlation between the existence of an environmental policy or strategy and the implementation of energy-saving measures.
HA: There is a statistically significant correlation between the existence of an environmental policy or strategy and the implementation of energy-saving measures.

Another research objective was to determine whether hospitals, as the most energy-intensive institutions, are actively addressing energy savings. The aim of this analysis was to verify whether hospitals that have an officially defined environmental policy or strategy (including partially defined ones) are also actively addressing energy savings. The results show that all hospitals that reported having an officially defined environmental policy (100%, 14 out of 14) also reported that they actively address energy savings. Among hospitals that have a partially defined environmental policy, 87.5% (14 out of 16) stated that they are addressing energy savings, while 12.5% (2 out of 16) stated that they are not actively addressing this area. Hospitals that do not have an environmental strategy at all are addressing energy savings in one case (100%, 1 out of 1). In terms of absolute frequencies, hospitals that address energy savings regardless of the degree of formalization of their environmental policy predominate.

Fisher's exact test was again chosen for statistical evaluation, as more than 20% of the cells in the contingency table had expected frequencies of less than 5. The results of Fisher's test did not reveal a statistically significant relationship between the existence of an environmental policy (including its level of definition) and active energy saving measures ($p = 0.518$). H0 was confirmed. Although it appears that hospitals with a defined environmental strategy are more likely to address energy savings, the differences between the groups are not

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statistically significant. The arguments for these results may be similar to those for RQ1. Hospitals can take a responsible approach to energy savings even if they do not have a sustainability strategy in place.

Hospitals and healthcare facilities require a range of engineering services, including heating, ventilation, and air conditioning systems, hot and cold water supply systems, and backup power systems (Al-Rawi et al., 2023). From this perspective, sustainable solutions are essential for hospitals in terms of energy resources. Dion et al. (2023) present options and plans for energy efficiency management in hospitals and healthcare facilities in their study. Vaishnavi & Suresh (2023) focused on resource conservation, namely reducing water consumption and using renewable energy sources. There are an increasing number of concepts for constructing green buildings that meet environmental goals (Aini et al., 2023). Alsawaf & Albadry (2022) published that hospital buildings must become sustainable, healthy, and technologically conscious, meet the needs of their occupants, and must be flexible and adaptable to deal with change.

Table 3. Association Between Environmental Policy and Energy Savings in Hospitals

		Does your hospital have an officially defined environmental policy or strategy?			
		Yes	Yes, partly	No	Total
We are actively involved in energy saving	Yes	14	14	1	29
	No	0	2	0	2
Total		14	16	1	31

Source: Author's own research, 2025

Table 3 provides an association between environmental policy and energy savings in hospitals. The contingency table 4 verifies relationship between variables.

Table 4. The contingency table

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	2,004[a]	2	,367	,518
Likelihood Ratio	2,775	2	,250	,518
Fisher's Exact Test	2,671			,518
N of Valid Cases	31			

[a] 4 cells (66,7%) have expected count less than 5. The minimum expected count is ,06.
Source: Author's own research, 2025

While the focus on active energy saving management represents the technical and operational aspect of hospitals' environmental strategy, the focus on the human factor is no less important. People and employees are also valuable resources that need to be invested in. Effective implementation of measures to promote sustainability requires not only technological solutions, but also a change in the attitudes and behavior of employees. Therefore, another research question focused on determining whether hospitals with a defined environmental policy or strategy actively implement employee training in the area of sustainability.

RQ3: Hospitals that have a defined environmental policy or strategy actively train their employees in sustainability.
H0: There is no statistically significant correlation between a defined environmental policy and an active approach to employee training in sustainability.
HA: There is a statistically significant correlation between a defined environmental policy and an active approach to employee training in sustainability.

The last part of the research examined the relationship between the existence of an environmental policy (or a partial form thereof) and the implementation of employee training or education in environmental sustainability. Of the hospitals that have an officially defined environmental policy, 64.3% (9 out of 14) stated that they conduct training regularly, 28.6% (4 out of 14) occasionally, and 7.1% (1 out of 14) stated that they do not yet

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conduct training but are planning to do so. No hospital in this group responded that it does not conduct training at all. Among hospitals with a partially defined environmental strategy, 43.8% (7 out of 16) stated that they conduct training occasionally, 18.8% (3 out of 16) regularly, 31.3% (5 out of 16) do not yet provide training but plan to do so, and 6.3% (1 out of 16) do not provide training at all. The hospital without an environmental policy (1 out of 31) stated that it does not provide training.

Table 5. Association Between Environmental Policy and Active Employee Training in Sustainability

		Does your hospital have an officially defined environmental policy or strategy?			
		Yes	Yes, partly	No	Total
Do you provide training or education for employees about environmental sustainability?	Yes	4	7	0	11
	Yes, regularly	9	3	0	12
	No	0	1	1	2
	No, but we are planning to	1	5	0	6
Total		14	16	1	31

Source: Author's own research, 2025

Fisher's exact test was again used to compare these groups. The test results showed a statistically significant association between the existence of an environmental policy and the implementation of employee training ($p = 0.014$). HA was confirmed.

Table 6. The contingency table

Chi-Square Tests				
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	22,162[a]	6	,001	,003
Likelihood Ratio	14,195	6	,028	,016
Fisher's Exact Test	12,879			,014
N of Valid Cases	31			

[a] 9 cells (75,0%) have expected count less than 5. The minimum expected count is ,06.

Source: Author's own research, 2025

This result suggests that hospitals with environmental policies are significantly more likely to provide training or education to employees in the area of sustainability, compared to hospitals that do not have such policies or have only partially defined them. This result is supported by Bray et al. (2022) and Berniak-Woźny & Rataj (2023), who confirm that the systematic integration of environmental topics into the training and education of healthcare professionals is key to achieving long-term sustainability goals in healthcare. The fact that green training in hospitals has an impact on the achievement of environmental goals is also confirmed by studies (Ryan-Fogarty et al., 2016; Carino et al., 2021; Tisdall et al., 2025). Green management in hospitals has the potential to significantly improve environmental sustainability through employee training and education. However, to achieve maximum impact, it is necessary to implement standardized and systematic training programs, which many hospitals lack (Mcaleese et al., 2024). Vaishnavi & Suresh (2023) point to the need to implement an Environmental Sustainability (ES) program, where all employees, including doctors, nurses, and managers at all levels, are provided with specific training aimed at raising awareness of this issue.

Conclusions

The aim of this article was to analyze the state of green management in Czech hospitals, as literature research confirmed that hospital facilities are among the most energy-intensive facilities. Attention was focused on the size of the facility, the existence of an adopted environmental policy or strategy, energy savings, and employee training. The results showed that although larger hospitals more often declare the existence of an environmental policy, this relationship was not statistically significant. Similarly, no connection was found between the existence of an environmental strategy and active energy savings measures. However, a significant finding is that hospitals with a defined environmental policy more often provide training and education to employees in

the area of sustainability. This confirms the importance of green management in human resource management and underscores the need for systematic education as a tool for improving the environmental performance of healthcare facilities.

The novelty of the scientific findings in this study lies primarily in the connection between the concept of green management and human resource management in the context of healthcare organizations, which has been only minimally investigated in the Czech and European contexts. The study provides new empirical evidence that environmental policy can serve as a tool for developing employees' competencies in the area of sustainability, not just as a formal document. This approach expands current knowledge about the factors influencing the implementation of sustainable practices in the public sector, providing data for the creation of strategic frameworks and educational policies in healthcare. At the same time, the results complement international research by highlighting the specifics of the Czech context, where environmental management is still in its initial phase of systematic development.

Despite the correlations found, environmental management in healthcare in the Czech Republic remains underdeveloped and represents a significant research gap. Future research should focus on identifying barriers to the implementation of environmental policies and energy innovations, as well as on developing standardized training programs for employees at all levels. An emphasis on education, the introduction of modern technologies, renewable energy sources, and intelligent management systems can help hospitals reduce their environmental impact, strengthen their economic efficiency, and contribute to the achievement of sustainable development goals.

The limitation of this study is its regional scope, as the research was conducted only in the Czech Republic. Furthermore, the authors focused on formal environmental policies or strategies adopted by hospitals. It can be assumed that even smaller hospitals may think green without having an adopted policy. Future research could therefore examine whether informal sustainability practices exist in hospitals without formal strategies and whether the effectiveness of these practices varies depending on the size of the hospitals or regions.

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