

Green Practices and Their Role in Enhancing Corporate Social Responsibility in Healthcare Institutions: A Review of Successful Models

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Abstract:

This research paper aims to explore the most significant green practices within healthcare institutions and their role in enhancing corporate social responsibility. It highlights various models of healthcare institutions that have adopted such practices.

The research concludes that corporate social responsibility in healthcare is strengthened by green practices such as: eco-friendly waste management (covering green purchasing, transportation, and disposal); conserving energy and water through efficient methods; adopting sustainable food options by choosing local and healthy products; and promoting green transportation like cycling and walking. These actions help preserve the environment and improve the health and well-being of employees, doctors, patients, and the broader community, fulfilling corporate social responsibility.

Keywords: Green practices; Environment; Resource efficiency; Social responsibility; Healthcare institutions.

Jel Classification Codes : Q01 ; Q56 ; I18 ; M14 ; L31

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I. INTRODUCTION

Today, the world is witnessing an environmental crisis due to the rampant pollution and environmental damage inflicted by various institutions through hazardous practices and operations. Many institutions disregard environmental standards, evident in their energy usage, gas emissions, waste management, and more. With increasing pressure on the environment, the concept of the green economy has emerged, aiming to mitigate environmental risks and achieve sustainable development through a range of environmentally conscious practices.

A series of green practices have emerged as suitable standards and guidelines for institutions, including the use of eco-friendly resources, water efficiency technologies, pollution reduction, and more. Healthcare institutions are particularly significant due to their service provision and their status as major consumers of resources such as energy and water. Adopting these practices can contribute to environmental preservation, human health, and cost reduction, thus advancing the concept of corporate social responsibility.

Adopting corporate social responsibility entails balancing economic performance with social performance and environmental stewardship.

Problem Statement:

Green practices are among the most crucial applications of modern management, aiming to achieve dual objectives: safeguarding human health and protecting the environment through various principles and standards. Therefore, the issue of this study arises from the importance of applying these standards and guidelines in healthcare institutions and their role in enhancing corporate social responsibility.

Main Question :

**Do green practices play a role in enhancing corporate social
responsibility in healthcare institutions?**

Sub-Questions:

- Does waste and by-product management contribute to enhancing corporate social responsibility in healthcare institutions?
- Does energy management contribute to enhancing corporate social responsibility in healthcare institutions?

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- Does water management contribute to enhancing corporate social responsibility in healthcare institutions?
 - Does food and nutrition management contribute to enhancing corporate social responsibility in healthcare institutions?
 - Does green transportation management contribute to enhancing corporate social responsibility in healthcare institutions?

Hypotheses:

Main Hypothesis:

Green practices contribute to enhancing corporate social responsibility in healthcare institutions.

Sub-Hypotheses:

- Efficient waste and by-product management contribute to enhancing corporate social responsibility.
- Green energy management contributes to enhancing corporate social responsibility.
- Water management contributes to enhancing corporate social responsibility.
- Green food and nutrition management contributes to enhancing corporate social responsibility.
- Green transportation management contributes to enhancing corporate social responsibility.

Research Objectives:

This research aims to elucidate the role of green practices in enhancing corporate social responsibility in healthcare institutions by exploring general concepts of corporate social responsibility and identifying key green practices in these institutions. It also examines models of healthcare institutions that have adopted green practices.

Significance of the Research:

The significance of this research lies in its focus on the sensitive healthcare sector, offering valuable insights to healthcare institutions on green management systems and the application of green practices. This is crucial for maintaining public health and environmental protection through

the use of eco-friendly, cost-effective resources and enhancing corporate social responsibility.

Research Methodology:

This study employs a descriptive and analytical approach, exploring the concept of corporate social responsibility and key green practices applicable to healthcare institutions. It analyzes the feasibility of implementing these practices by examining live models of various healthcare institutions.

Previous Studies:

Several antecedent studies have investigated topics pertinent to this research, including:

- The study by Sahli Kenza and Ziyani Khoulood (2022), titled "The Contribution of Green Practices in Hotels to Advancing Corporate Social Responsibility in the Hospitality Sector of Mila, Algeria," sought to elucidate the impact of green practices on the adoption of corporate social responsibility (CSR) within hospitality institutions in Mila. Employing a descriptive-analytical methodology, the study utilized a randomized sample of 52 hotel employees in Mila, with data collected via a structured questionnaire. The study concluded that adherence to green practices within these hotels substantially fosters the advancement of CSR.
- The study by Mohamed El-Saghir Qureshi (2020), titled "The Role of Corporate Social Responsibility in Enhancing Medical Waste Management: A Case Study of Healthcare Institutions in Algeria," aimed to illuminate the role of CSR across various dimensions of healthcare institutions, including their responsibilities towards staff, patients, the community, and the environment. The study focused on improving medical waste management to mitigate its risks and adverse effects. Theoretical constructs of CSR were analyzed using both descriptive and inferential statistical methods. Findings indicated that strict adherence to CSR principles significantly enhances the management of medical waste, supported by the integration of pertinent laws, regulations, and the adoption of innovative tools and techniques.
- The study by Vardeep Singh Dhillon and Dilpreet Kaur (2015), titled "Green Hospitals and Climate Change: Their Interrelationship and the Way Forward," sought to elucidate the concept of green hospitals and examine the various ways in which the healthcare sector contributes to climate change. The study explored potential responses to this pressing issue and

identified leading institutions effecting change. Data were gathered from multiple online sources via Google, revealing that healthcare institutions, due to their substantial resource consumption, exert a significant environmental impact. Nevertheless, the study underscored that the implementation of straightforward, intelligent, and sustainable measures could mitigate these effects.

Position of Our Study Among Previous Research:

A comparative analysis of prior studies reveals notable similarities between (2022, ساحلي و زياتي) research and our study in terms of subject matter. Both studies explore the influence of green practices on the enhancement of CSR. However, while their study centers on the hospitality sector, our research focuses on healthcare institutions. Similarly, (2021, قريشي) study shares alignment with our research by focusing on healthcare institutions, though the variables and objectives diverge. Qureshi's (2021, قريشي) work concentrates specifically on one facet of green practices—waste management—while our study encompasses a broader spectrum of practices. Qureshi's study investigated the role of CSR in improving medical waste management, whereas our research examines the wider impact of green practices on CSR within healthcare institutions. This suggests that while green practices can advance CSR across various sectors, effective management of waste or other areas cannot be solely achieved through CSR. Furthermore, Qureshi's study did not explicitly address CSR application within healthcare settings, highlighting the necessity to consider relevant regulations, laws, and practices advocating CSR.

Lastly (Dhillon & kaur, 2015) study and our research both emphasize healthcare institutions, focusing on practices and applications that contribute to reducing carbon footprints and enhancing environmental and human health. While (Dhillon & kaur, 2015) discussed the green hospital concept in a general context, our study introduces the crucial variable of CSR and investigates whether the implementation of green practices can further amplify CSR within healthcare institutions, thus extending their research.

1. Theoretical Framework of the Research:

1.1. Corporate Social Responsibility in Healthcare Institutions: Its Concept, Dimensions, and Significance

1.1.1 Concept and Dimensions of Corporate Social Responsibility in Healthcare Institutions

Corporate social responsibility (CSR) has been articulated by the World Business Council for Sustainable Development as: "The commitment of enterprises to contribute to sustainable economic development while working to enhance the quality of life for their employees, their families, the local community, and society as a whole." (kotler & lee, 2005, p. 3). The World Bank characterizes CSR as: "The extent to which the business sector contributes to achieving sustainable development goals, considering economic, social, and environmental concerns in a manner that optimizes profits and mitigates adverse impacts (The World Bank, 2006). Carroll defines it as: "CSR encompasses the economic, legal, ethical, and philanthropic expectations of society concerning institutions at a specific point in time" (carroll, 1999, p. 282). Carroll proposed a hierarchical pyramid representing four fundamental dimensions of CSR, intended to reflect the essential elements that the concept of CSR should or could include. These dimensions are depicted as follows: (carroll, 1991, p. 42).

Figure 01: Carroll's pyramid of social responsibility dimensions



Source: based on the study of (carroll, 1991, p. 42)

The concept of the aforementioned dimensions can be elucidated as follows: (فلاق، 2016، صفحة 53 و54)

- **Economic Dimension:** This dimension requires that a healthcare institution achieve its goals through the efficient and effective utilization of resources. It also entails the adoption of technological advancements to mitigate or reduce environmental impacts.
- **Legal Dimension:** This dimension mandates a conscientious and voluntary adherence to applicable laws and regulations, such as safeguarding the environment by preventing all forms of pollution, regulating resource usage, and implementing sound waste management practices. It also includes ensuring safety, equity, and enhancing working conditions for staff, medical professionals, and others.
- **Ethical Dimension:** This dimension is founded on understanding and integrating societal values, ethical principles, and behavioral norms. It obliges the healthcare institution to uphold justice and integrity, fairness, equal opportunities, and the prevention of corruption and bribery.
- **Philanthropic Dimension:** This dimension pertains to the principle of advancing overall quality of life by preserving community resources, engaging in benevolent activities, and providing additional services that enhance life quality and well-being.

In summary, while there are numerous definitions, a universally accepted definition of corporate social responsibility remains elusive. Within this framework, corporate social responsibility for healthcare institutions can be defined as: "The commitment of healthcare institutions to act ethically and environmentally, considering the interests of employees, patients, and the broader community, while contributing to economic development and enhancing the quality of life."

1.1.2 The domains of social responsibility and their significance

The domains of social responsibility for healthcare institutions encompass various concerns and expectations of stakeholders, which can be addressed through the adoption of the concept of social responsibility within these institutions, as follows: (بوالصوف، 2021، صفحة 207 و 208)

- **Employees and doctors:** The social responsibility in this area is centered around meeting the needs of employees and doctors, such as providing security, transportation, and improving working conditions, etc. Additionally, providing equal employment opportunities, offering training programs to enhance skills, and establishing a fair wage and reward system, among others;
- **Patients:** The patient should be a top priority for healthcare institutions, where the focus must be on their needs, offering proper care, providing high-quality health services without deceit or negligence, etc.;
- **Society:** Healthcare institutions can safeguard the well-being of the community through various services they offer, such as therapeutic and preventive functions, among others, as well as contributing to charitable activities and supporting social development, thereby fostering social stability;
- **Environment:** This area pertains to environmental preservation through the efficient management of waste using less harmful and more effective methods, the optimal use of resources, energy, and water, which guarantees the reduction of environmental impact and lowers costs.

The commitment to social responsibility can yield several advantages that enhance its importance. Its significance is reflected in the following: (قواسمية و سالم، 2021، صفحة 104)

- Enhancing the image and reputation of healthcare institutions, fostering a spirit of cooperation and unity among the various parties (employees, doctors, patients, etc.), as well as improving performance, increasing

productivity, and achieving job satisfaction;

- Achieving social stability through the promotion of justice and the principle of equal opportunity, alongside the improvement of the quality of healthcare services provided;
- Reducing costs as a result of environmental responsibility, thereby preserving the environment and enoning human health.

1.2. Implementing green practices in healthcare institutions

Green practices encompass a range of eco-friendly programs, diverse technologies, and operational procedures that are actively implemented in healthcare institutions with the aim of mitigating negative environmental impacts and enhancing positive ones. The ultimate goal of these practices is to improve the institution's sustainable environmental (موسى اسماعيل و البردان، 2018، صفحة 65 و66). The most significant of these practices are outlined in the following table:

Table No. 01: A table outlining the most important green practices in healthcare institutions.

Green Practices	Their Applications in Healthcare Institutions
Energy Management	Healthcare institutions function continuously—24 hours a day, seven days a week, and 365 days a year—leading to an extensive demand for energy across numerous applications, including water heating, lighting, ventilation, and beyond. Consequently, it is essential to establish programs and policies that promote energy efficiency through the adoption of sustainable practices, such as harnessing alternative energy sources like solar and wind power, acquiring energy-saving green products, utilizing high-efficiency lighting systems, and integrating automated shut-off mechanisms, among other initiatives
Water	Healthcare institutions utilize immense quantities of

Management	water across various domains, and this substantial consumption exacerbates climate change, drought, and other environmental issues. As such, it is crucial for these institutions to devise a strategy focused on optimizing water usage to ensure both operational efficiency and the preservation of this vital resource. Key green practices that align with these goals include the adoption of advanced water-saving technologies, continuous maintenance to prevent leaks, rainwater harvesting for non-potable purposes, and the implementation of drought-resistant landscaping, among other initiatives.
Waste Management	Medical waste is often incinerated, buried, or discarded, resulting in the release of hazardous gases and compounds, as well as greenhouse gas emissions that contribute to global warming. To reduce pollution and provide effective and sustainable waste management, it is essential to adopt environmentally conscious practices. These include minimizing waste production by limiting usage to only what is necessary, repurposing certain materials and products, and utilizing digital technologies in place of paper. Additionally, recycling non-hazardous waste and employing alternative waste treatment methods, such as dry or thermal sterilization, or using autoclaves—steam sterilization devices commonly used for ongical and medical products—are among the clean technologies that should be implemented.
Food Management	Healthcare institutions are among the largest consumers of food. The foremost sustainable practices in this realm include reducing the consumption of meat, particularly red meat, and focusing on fresh, healthy foods, as well as sourcing locally grown and sustainably produced products, among other meaones.

Transportation Management	Healthcare institutions must adopt sustainable practices to refine their transportation systems and diminish their environmental footprint. Prominent strategies include sourcing from local vendors, promoting walking, cycling, and public transit among employees and patients, and other similar initiatives. Furthermore, enhancing the energy efficiency of institutional vehicles through the adoption of alternative fuels, electric vehicles, and other advanced technologies is crucial.
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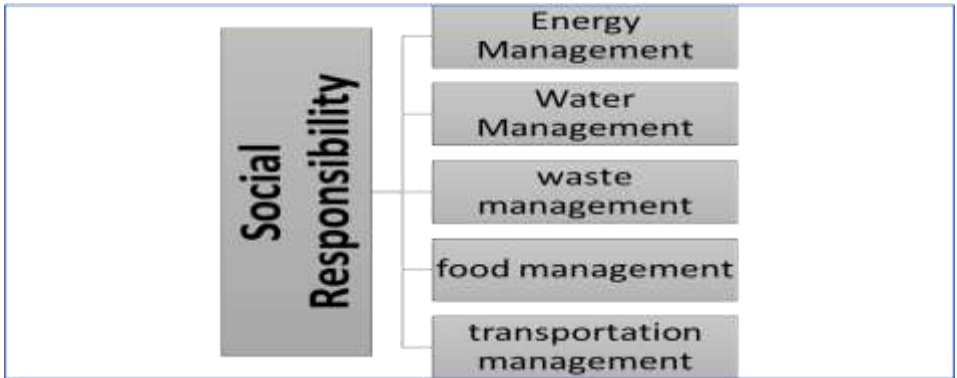
The Source: based on the study of (Dhillon & kaur, 2015, pp. 3-4)

Thus, it can be said that healthcare institutions' shift towards adopting green practices yields numerous benefits. Implementing such practices enhances efficiency and effectiveness within these institutions while also earning community satisfaction by providing a conducive, healthy, and comfortable environment for both patients and staff. Additionally, it fosters greater environmental awareness among employees.

2. Research Framework:

After examining the principal green practices within healthcare institutions and delving into the nature, dimensions, and domains of social responsibility, this section seeks to elucidate how these practices contribute to enhancing social responsibility. This will be accomplished by presenting case studies of healthcare institutions that implement green practices, utilizing the following research model:

Figure 02: research model



The Source: prepared by researchers based on the study.

Drawing from the previous model and the theoretical discourse, this section endeavors to examine the principal green practices within healthcare institutions and their application. It will also scrutinize key initiatives aimed at environmental conservation and public health, assessing their impact on reinforcing the social responsibility of these institutions. This analysis will be illustrated through a series of case studies—exemplars of healthcare organizations that are actively implementing these practices to reduce environmental impact, enhance public health, and maximize economic efficiency.

2.1. Green Practices in Waste Management

Waste management within healthcare institutions is a complex and costly process, further compounded by its adverse effects on both human health and the environment. Therefore, it represents a challenge that must be managed effectively. Implementing green practices in waste management is a sound solution that ensures better outcomes, particularly concerning environmental preservation and human health. This aligns precisely with the goals of social responsibility, especially in the realm of environmental stewardship. The question posed is: What role do green waste management practices play in enhancing the social responsibility of healthcare institutions? To address this question, we present a real-life example of a healthcare institution that implements green waste management practices.

- The specialized healthcare institution (Memorial Sloan Kettering Cancer Center) located in New York, USA, has garnered numerous awards (over 60 awards) for its sustainability and environmental excellence, recognizing

its outstanding leadership and commitment to implementing the best green and sustainable practices in healthcare. The institution has continuously made strategic efforts to integrate optimal practices to mitigate negative impacts. It strives to advance its vision for sustainable healthcare by leading and innovating green practices that offer environmental, social, and economic benefits to patients, staff, and the community. This supports its mission to achieve excellence in cancer care and treatment—aiming to eradicate cancer for life. Among the key green practices at this institution are those related to waste management, summarized as follows:

- The institution operates single-stream recycling programs at all locations, facilitating the increased diversion and recycling of paper, cardboard, plastics, glass, and metals from landfills.
- All batteries and electronic waste are diverted for recycling.
- Organic food waste is collected and converted into natural compost.
- Source reduction efforts include the use of reusable sharps containers, significantly reducing plastic waste in landfills and incinerators.
- Medical supplies, equipment, and office supplies are consistently selected and directed for donation to local health aid organizations, repurposing them for humanitarian and public health efforts instead of disposing of them in landfills.
- Efforts to minimize paper use are unified by strategically involving staff at all levels in digital transformation tools, thereby reducing paper usage, enhancing efficiency, and safeguarding patient data, among other benefits. (memorial sloan kettering, 2023)

The aforementioned example illustrates the role of green practices in enhancing social responsibility through the following:

- Firstly: Various recycling and reuse programs, such as converting food waste into compost, significantly reduce waste and consequently lower costs while protecting the environment from adverse effects (enhancing environmental social responsibility);
- Secondly: Donating equipment and supplies instead of disposing of them reduces costs associated with transportation and waste disposal and prevents potential negative impacts of waste. More importantly, it improves community relations, thereby enhancing the quality of life (reinforcing social responsibility towards both the environment and the community);

- Thirdly: Consolidating efforts and engaging staff in reducing paper use and embracing digital transformation helps mitigate waste and fosters collaboration among employees, resulting in a healthier and safer workplace (strengthening responsibility towards the environment, staff, and patients).

2.2. Energy Management:

Healthcare institutions consistently consume substantial amounts of energy for various purposes, including lighting, air conditioning, and heating, which not only escalates costs but also poses significant threats to the environment and public health due to reliance on detrimental traditional energy sources. To mitigate these adverse effects, it is imperative to adopt sustainable green practices in energy management, such as utilizing clean fuels and renewable energy sources. This approach not only fosters operational efficiency and effectiveness but also amplifies the social responsibility of healthcare institutions by reflecting their commitment to social, ethical, and environmental initiatives directed towards the community, staff, patients, and the environment. To elucidate this further, we present an example of a healthcare institution that implements several green practices in energy management to address the following question: What role do green energy management practices play in enhancing the social responsibility of healthcare institutions?

- Khoo Teck Puat Hospital, a public healthcare facility located in Yishun, Singapore, has garnered numerous accolades for its exceptional building design, which is both eco-friendly and demonstrates exemplary energy management (KTPH). This institution achieves effective and sustainable energy management through a range of practices and innovations, including: (el sheikha, abdel-salam, & bakr, 2023, pp. 103-104) (braga, 2023)

- Natural Lighting Utilization: Approximately 70% of rooms and wards benefit from natural light, and skylights are used to illuminate the basement. Additionally, the institution employs energy-efficient lighting systems, significantly reducing the reliance on artificial lighting;

- Renewable Energy Adoption: Solar panels are employed to harness solar energy, thereby diminishing the carbon footprint;

- Green Spaces and Roof Gardens: The inclusion of gardens and green roofs not only enhances the aesthetic appeal but also moderates temperature and optimizes energy efficiency. Eco-friendly practices are

also in place to promote energy reuse and efficiency;

- **Sensor Integration:** Various locations within the institution, including stairwells and parking areas, are equipped with sensors.

The aforementioned example illustrates how green practices contribute to enhancing social responsibility through the following:

- **Firstly:** The substantial use of natural lighting and energy-efficient lighting systems reduces the need for artificial lighting, thus decreasing electricity consumption and costs while safeguarding the environment (enhancing environmental social responsibility). Furthermore, natural lighting fosters a more pleasant and conducive environment for patients and staff (enhancing social responsibility towards patients and staff);
- **Secondly:** The reliance on alternative energy sources, such as solar energy, reduces the carbon footprint (enhancing environmental social responsibility);
- **Thirdly:** The presence of gardens and green roofs enhances visual appeal, regulates temperature, and provides a clean, pollutant-free environment, thereby creating a healthier and more suitable setting (enhancing responsibility towards patients, staff, and the environment). Additionally, green practices that promote energy reuse and efficiency bolster overall efficiency and reduce the carbon footprint (enhancing environmental social responsibility);
- **Fourthly:** The strategic placement of sensors reduces energy consumption, thereby lowering costs and mitigating negative impacts (enhancing environmental social responsibility).

2.3. Water Management:

Water is an invaluable resource, particularly within healthcare institutions, where its critical role is underscored by its substantial and escalating use across various domains (restrooms, bathrooms, kitchens, etc.). This extensive consumption contributes to drought and climate change, inflicting harm on both the environment and society. To mitigate these detrimental effects, healthcare institutions must implement practices that enhance water efficiency and diminish negative impacts, thereby embodying social responsibility towards various stakeholders, including staff, patients, the environment, and the community. The pertinent question here is: What role do green water management practices play in enhancing the social responsibility of healthcare institutions? To address this query, we examine a healthcare institution that applies several green practices in

water management.

- Ronald Reagan UCLA Medical Center, located in Los Angeles, USA, stands as a pioneer in education, research, patient care, and sustainable practices. Among its green initiatives are those focused on water management, including:
- ✓ Water Efficiency Improvements: Upgrading toilets, sinks, and bathrooms to more efficient models to enhance water efficiency;
- ✓ Reduced Irrigation Usage: Utilizing drought-resistant landscapes by planting drought-tolerant vegetation that requires minimal irrigation;
- ✓ Installation of Touchless Water Stations: Reducing bottled water sales by implementing touchless water bottle filling stations, thus encouraging the use of reusable bottles and optimizing water efficiency by dispensing only the required amount (reducing overfilling). (UCLA)

The above example illustrates how green practices in water management contribute to enhancing social responsibility through:

- **Firstly:** Efficiency upgrades and water conservation measures reduce water consumption, promoting effectiveness and protecting the environment and society by preventing negative impacts like drought and climate change (enhancing social responsibility towards the environment and community);
- **Secondly:** Planting drought-resistant vegetation decreases water usage while preserving the environment (enhancing social responsibility towards the environment);
- **Thirdly:** Replacing bottled water sales with touchless water stations and encouraging the use of reusable bottles reduces water consumption and mitigates negative effects (enhancing social responsibility towards the environment).

2.4. Food Management:

The manner in which food is produced, transported, consumed, and disposed of profoundly impacts individual health, societal well-being, and the environment. Notably, the social responsibility of healthcare institutions reflects their commitment to individuals, communities, and the environment. Thus, food management directly correlates with the enhancement of social responsibility, as both aim to achieve the same objective: adopting green practices in food management represents the

optimal choice for ensuring good health and a clean, pollution-free environment, thereby fulfilling social responsibility. The question here is: What role do green food management practices play in enhancing the social responsibility of healthcare institutions? To answer this, we present an example of a healthcare institution that implements green food management practices.

Among the exemplary models in the field of green food management:

- Jersey Shore University Medical Center, part of the Hackensack Meridian Health network, and Hackensack Meridian Health Medical Center, which serves as the network's flagship hospital;

both are academic medical centers located in New Jersey, USA. They have received numerous awards in recent years, particularly for their achievements in sustainability and environmental excellence (hackensack meridian health, 2020). Among these accolades is recognition from Practice Green health, a leading organization in healthcare sustainability that provides solutions and awards to honor institutions advancing sustainability (green health). Robert C. Garrett, CEO of Hackensack Meridian Health Medical Center, stated: "Sustainability is an integral part of our mission to provide high-quality care to the patients and communities we serve. I also extend my gratitude to our team members for their efforts in being innovative environmental stewards. Our healthcare institution is committed to leading positive change in the communities we serve, and that is why we tirelessly work to advance green and sustainable initiatives that protect our communities, our environment, and our patients" (lindner, 2023). Among the most significant green practices followed by these institutions in food management are as follows: (healthy food, 2019) (morrison, 2019).

- Sourcing healthy and sustainable food from reputable suppliers and local farmers;
- Acquiring meat and poultry raised without antibiotics;
- Reducing meat consumption as much as feasible;
- Crafting inventive dishes and meals using nutritious ingredients while minimizing food waste. For example: On April 24, 2019, Jersey Shore University Medical Center hosted a zero-waste dinner event designed to eliminate food waste. Among the distinguished guests were Vito Buccellato, President and CEO of Jersey Shore Medical Center, and Kyle Tafuri, Sustainability Director at Hackensack Meridian Health. The event showcased an array of healthy dishes prepared with meticulous attention to

avoid any food waste. Chef Cordova, the Executive Chef responsible for the menu, remarked: "Our objective was to develop a menu that utilized every part of the vegetables while delivering a meal with varied and exquisite flavors, along with a distinctive presentation. We managed to prepare healthy meals using seasonal and sustainable ingredients, without any food waste."

This example highlights how green practices advance corporate social responsibility within healthcare institutions through the following:

- **Firstly:** Sourcing healthy and sustainable food from local suppliers and farmers supports the well-being of individuals, including patients and staff (enhancing social responsibility towards patients and staff). It also stimulates local farmers to increase production, which leads to greater profits and contributes to preserving vegetation, improving soil and air quality, and thus enhancing overall quality of life and public health (enhancing social responsibility towards the community and environment). Additionally, collaborating with farmers can involve supplying food scraps for use as natural fertilizers, thereby leveraging waste. Notably, local sourcing reduces transportation needs, thereby decreasing emissions and mitigating pollution (enhancing social responsibility towards the environment);
- **Secondly:** Procuring meat and poultry raised without antibiotics promotes and sustains this industry while safeguarding the public health of patients and staff. Furthermore, reducing meat consumption aids in preventing various ailments such as cardiovascular diseases and lowers food costs due to the high expense of meat (enhancing social responsibility towards the community, patients, and environment);
- **Thirdly:** Creating innovative dishes with healthy options while minimizing food waste provides patients with superior, nutritious, and appealing meals (enhancing social responsibility towards patients). It also encourages creativity among chefs by utilizing every part of food, including vegetable and fruit peels in recipes, thus fostering innovation and reducing waste (enhancing social responsibility towards staff and the environment).

2.5. Transportation Management:

Transportation represents a fundamental source of environmental pollution, particularly air pollution, which precipitates various health issues, including respiratory ailments. Consequently, transportation methods

inflict significant harm on both the environment and human health. Given that the healthcare sector is profoundly reliant on transportation, healthcare institutions play a considerable role in exacerbating these detrimental effects. The only viable solution to mitigate these adverse impacts is to adopt environmentally-friendly transportation options, i.e., green practices.

- Seattle Children's Hospital, located in Washington, USA, embodies its sustainability mission as follows:

- ✓ People: Dedicated to enhancing the health and well-being of patients, their families, staff, and both local and global communities.
- ✓ Planet: Committed to fostering a healthy environment, thereby supporting its core mission to provide hope, care, and treatment to ensure that every child leads a healthier and more fulfilling life.
- ✓ Promise: Devoted to upholding its pledge to care for every child in need, irrespective of their family's financial capacity, by implementing sustainable green practices that advance patient care, reduce costs, and minimize the carbon footprint.

Seattle Children's has established a comprehensive sustainability program to diminish environmental impacts, which includes a green transportation initiative. The hospital features a nationally recognized employee transportation program and has successfully reduced the proportion of single-occupancy vehicle trips by staff from approximately 73% in 1995 to around 32% in 2017, with a goal to further reduce this figure to 30% by 2030. Its tri-fold objective encompasses: delivering value to employees, reducing parking costs, and improving air quality to support children's health.

Key green transportation practices at Seattle Children's include:

- ❖ Offering free bicycles to employees who commit to biking to work twice a week.
- ❖ Operating a fully-equipped bike shop that provides discounts on bicycles, gear, and accessories.
- ❖ Implementing variable parking fees based on location and time of day.
- ❖ Providing a daily commuting incentive for employees who carpool. (seattle children's)

From this example, the impact of green transportation practices on enhancing social responsibility is evident through:

- **Firstly:** The hospital's tri-fold goal of delivering value to employees, reducing parking expenses, and improving air quality fosters a motivated workforce and creates a healthier, cleaner environment for all individuals within the institution, including patients and staff, while also preserving the environment (enhancing social responsibility towards employees, patients, and the environment).
- **Secondly:** The practices, such as providing free bicycles and carpool incentives, cultivate collaboration and sharing among employees, enhance their health and safety, and crucially, reduce transportation-related pollution (enhancing social responsibility towards employees, patients, and the environment).

These examples illustrate how healthcare institutions strive to implement green practices, with each institution focusing more intensively on specific initiatives. This does not imply that other practices are disregarded, but rather highlights the most successful efforts. It is evident that there is a correlation between adopting these practices and enhancing social responsibility, with each initiative having a distinct positive impact on environmental or individual aspects, including patients, staff, and the community.

II. Conclusion:

In this study, we sought to explore the principal green practices within healthcare institutions and their role in enhancing social responsibility by examining several models of institutions that adopt some of these practices. The findings are as follows:

- Social responsibility in healthcare institutions is bolstered by green practices through: managing waste and by-products in an eco-friendly and safe manner across all stages, from green procurement to transportation and disposal; optimizing energy and water use through conservation and alternative methods; adopting green food management by choosing healthy, local, and beneficial food options; and implementing green transportation by reducing car use in favor of cycling, walking, and other alternatives.
- Our examination of various healthcare institutions reveals that these entities strive diligently to implement green practices, or at least some of them, indicating their commitment to environmental protection, public health improvement, and enhanced efficiency, as well as their desire to improve their image and reputation.

- The commitment of healthcare institutions to green practices and initiatives undoubtedly contributes to environmental preservation and enhances the health and well-being of staff, physicians, patients, and the broader community, thereby achieving social responsibility. Our hypothesis that green practices contribute to strengthening social responsibility has been validated.

Through our study, we propose the following: the necessity of generalizing the concept of implementing green practices across all institutions, especially in healthcare. Rather than limiting to the application of some practices, efforts should be made to invest in and carefully apply all green practices. This includes training individuals in this field, encouraging them to adopt best practices, and fostering creativity. Additionally, there should be an attempt to create a positive green culture that ensures collaboration among different individuals to achieve a better life for people and the community, as well as to secure a cleaner, pollution-free environment.

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