

Going Green: Challenges Hindering Adoption of Green Practices in Hospitals

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I. Abstract

Hospitals are considered as a significant source of infection and contamination. They generate large quantity of waste while providing service to the patients. In order to address various environmental challenges caused by the hospitals they have adopted green hospital concept. The concept of going green in the healthcare sector comprise various risk elements. While enhancing environmental commitment the major factors to deal with are energy, cost and waste. Going green is not an easy task for hospitals. The hospitals are taking various measures to prevent environmental hazards but they are not enough to prevent environmental damages caused by them. This study aims to identify various challenges faced by hospitals in going green. The findings will be beneficial for framing guidelines for increasing the adoption of green practices in hospitals.

Keywords: Hospitals, environment, contamination, going green, challenges

II. Introduction

The environmental issues are gaining wide popularity across the globe. Degradation of environmental health is becoming more alarming. Human activities have caused climate change. Now it is imperative to protect the environment as it is the only way to improve our health and life in the long run. Nowadays the businesses and other institutions are shifting towards a green environment as now the people are more concerned and aware of environmental hazards caused by various activities. Due to the application of more resources, devices and products hospitals are a main source of waste and pollution. So, these institutions are unintentionally degrading environmental quality. Hospitals are one of the few institutions which operate twenty-four hours and 365 days nonstop. They are consumers of a very large amount of energy and they generate huge quantity of waste. While hospitals and its owners are



responsible only for treatment of patients but it's their responsibility to take care of their surrounding environment, their employees and the surrounding community.

So, they have started to give more importance to going green concept. The utilisation of energy, water, food, paper and other various materials used in the hospitals should follow eco-friendly norms to become a green hospital. The hospital waste should be properly treated and that must satisfy the principles of reduce, reuse, recycle and recovery. Now the hospitals are highly aware of their negative impact on patients, environment, public and on their surrounding community. In order to enhance environmental performance, various green initiatives have been implemented by the hospitals. But its success depends on how effectively they implement these green practices in their hospitals.

III. Objectives

To identify various challenges faced by hospitals in going green

IV. Methodology

This study is purely based on secondary data and for that journal, articles, reports of various financial institutions and websites have been used. The study is descriptive in nature

Going towards a Green Hospital

Green hospital can be defined in a number of ways. Office of the Federal Environmental Executive defines a green or sustainable building as the practice of increasing the efficiency with which buildings and their sites use energy, water, and materials, and reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal during the complete building life cycle¹. Green Hospital is aimed at reducing negative impacts on environment and thereby to upgrade public health.

V. Green Practices in Hospitals

A. Green space in hospitals

Hospitals can provide green spaces to help patients for a speedy recovery. Green spaces are areas like gardens, green parks, aquariums and other outdoor areas which help patients and promote going green concept. Well-planned and properly maintained green spaces in hospital is not only an area for relaxation and stress reduction but it



also helps in better social interaction and better clinical results by reducing medicines intake and speedy recovery.

B. Avoid harmful items

Hospitals generate large amount of waste both hazardous and non-hazardous. If not treated and disposed properly these wastes penetrate the surrounding soil and water resources. Hospitals use large number of single use materials and devices. These are dangerous for our ecosystem and to human beings. The hospitals should have proper waste disposal system. Safe and eco-friendly waste management practices protect people from dangers while handling the waste. Proper training and adequate safety equipment should be provided to those people who handles the hazardous waste.

C. Use Green certified products

Hospitals require a lot of cleaning products. The chemical-based products could be dangerous to new-borns and to other patients. The hospitals should use green certified cleaning products to make them green.

D. Green building

These buildings are constructed and designed in such a manner to reduce or eliminate its harmful impact on environment. There are many ways to make a building green some of them are use of renewable energy like solar batteries, waste control measures, efficient use of energy etc. Hospitals having LEED (Leadership in Energy and Environmental Design) certification has its own merits like water conservation, tax relief, reduced operating costs etc.

E. Recycling hospital waste

Hospital waste comprise of both harmful and non-harmful materials. Non-hazardous items like glass, food, cardboard boxes, paper etc should be properly sorted out from hazardous ones for recycling. This will reduce the waste disposal cost. The electronic gadgets also should be recycled to reduce electronic waste.

F. Say no to flame retardants

As a precaution to fire accidents hospitals buy a chemical coated furniture and other equipment that won't catch fire. Flame retardants are chemicals that are hazardous to patients. To make a green hospital flame retardant product should never be used in hospitals.

G. Use locally grown organic food



Hospitals need food for their patients and staff. So, to be more sustainable they can use locally grown foods which is produced using organic ways. This would help local farmers to make profit by avoiding intermediaries and long chain logistics. And it will promote organic farming. Procuring food from distant places would require transportation which cause more fuel emissions.

H. Use energy saving appliances

Hospitals consume a lot of energy. So, replacing electric lights by illumination arrangements like LEDs and use of five-star electronic gadgets save a lot of energy.

VI. Challenges faced by hospitals in going green

A. Cost

Going green is a costly affair. Hospitals require huge amount to convert their various activities into eco-friendly practices. Constructing new units for waste disposal, building proper infrastructure for processing recycling materials etc involves huge cost. Execution of new eco-friendly protocols need educating and training the staffs. It also creates additional cost. So eco-friendly initiatives like recycling is not always economical. The advantages of going green have been proved. But hospitals usually have limited budget so the main hindrance to change is the high cost of converting into green practices.

B. Segregation of Medical waste

It means categorizing waste materials based on their hazardous nature and recyclability. Its main aim is maximum reduction of waste disposal. Hospital waste can be classified into regulated and non-regulated medical waste. Highly risky medical waste which has been contaminated by radioactive elements, fluids, infectious agents are called regulated medical waste. It needs careful treatment and handling. Whereas non regulated medical waste is not very dangerous and doesn't pose a health hazard eg. paper, plastic, cardboard etc. So, it can be disposed through usual processes. Regulated medical wastes consist of both solid and liquid materials. Workers sort waste manually so there is also chance of contamination from recyclable items. Waste materials which were in touch with the patients won't be accepted by some units for recycling. Some recyclable waste items may contain residual medication so those items must be treated as hazardous waste materials. So advanced technology is

required for efficient waste segregation. Even though recycling is widely promoting the necessary infrastructure facilities for its effective implementation is lacking.

C. Use of single use or disposable materials and devices

Hospitals use a lot of single use plastics from syringes to surgical devices, gloves, straws, bags etc. These are considered as a good option in hospitals as in case of any infection these materials can be disposed easily and it also creates a more sterile environment. The device reprocessing may lead to residual contamination as while reprocessing the reusable items the agents may fail to clean the entire device as there may be some inaccessible areas in reusable items. And further breakdown of these reusable items or devices may lead to damage and it will affect its function. But going green concept encourages hospitals to use more reusable products over single use ones. Use of disposable products increase the volume of waste. But it's not very easy to replace single use materials with reusable ones as any defect in reprocessing may lead to contamination.

D. Create awareness among employees

Going green concept never happens without the participation of employees. Creating awareness among employees is the primary step. Employees should be aware of various environmental dangers caused by the hospitals. Proper education should be given to employees on measures to reduce hospital waste during their work. The persons handling hazardous waste materials should be given adequate training. Seminars, workshop, environment day celebration activities should be done at hospitals to create more awareness. The supervisors or leaders should enable their team members to go green by providing necessary facilities. If the entire employees are actively involved in building a sustainable environment by means of recycling, reusing and using more eco-friendly product, then it will have a surprising impact. The green practices can start at any level for example: patients electronic documentation reduce use of paper which reduce cost and waste. It won't happen overnight. For this awareness classes and training programme should be conducted. It is a cost and time-consuming activity.

E. Lack of proper waste management strategy

The hospital management should adopt proper operational plans. This includes frequency of waste collection, location, categorized waste bins and capacity of waste storing containers. Hazardous wastes are to be kept in leak proof containers and



should be sterilised properly. The waste materials must be transported in closed carts for further treatment. But in Indian hospitals wastes are carried in open carts which cause spillage and allows spreading of infection.

F. Management Commitment

Top management is not actively taking initiatives to go green as it affects their profitability. So, in majority of the hospitals the waste is disposed in mixed condition. So, even if the employees are committed to green practices, without proper support from their management the green concept won't be successful.

G. Lack of Adequate infrastructure Facilities

Hospitals in India have limited infrastructure facilities for storing, treating and disposing hospital wastes. It is impossible for all hospitals to build their own treatment units. Location of the hospital, their income, sufficiency of staff etc are to be considered. So, it may not be easy for small hospitals to build their own waste treatment units.

VII. Conclusion

In this highly competitive world hospitals have become high-tech to provide high quality treatment and service to the patients. In this run to survive as the best hospital they are unintentionally damaging the environment. In order to motivate all the hospitals to go green the government of India introduced green and digital hospitals concept in All India Institute of Medical Sciences, New Delhi. To save energy they have utilised Information and communication Technologies of Hitachi India Pvt. Ltd. The initiatives ensured successful transition into a green and digital hospital, facilitating better management of energy resources, improved indoor air quality, free solar energy, and improved diagnostic capabilities to deliver better patient treatment throughout the year². This can be set as a model for other hospital but various challenges like segregation of waste materials, cost of installing waste treatment units, educating employees, lack of management commitment, use disposable materials create hurdles in adopting green practices. The green concept discourages the use of disposable materials but in hospitals its use is inevitable, so care should be made at its waste segregation. The hazardous and reusable materials should be segregated carefully. Incineration of hazardous materials release greenhouse gases so hospitals should use chemical treatments, microwaving, autoclaving etc for treating hazardous waste. Due to lack of sanitary landfills biomedical wastes are disposed in open areas

or in water bodies. It is better for large hospitals to have their own onsite treatment areas and methods. But it is not economical for small hospitals. So, a common system should be initiated by the government which will supply garbage bags, collect hazardous materials and ensure safe handling and transportation to the treatment area.

Covid 19 pandemic and rising lifestyle diseases increased medical emergencies and use of hospital services which in turn increased hospital waste. It's not very easy for an institution like hospital to go fully green. So, government should take necessary action and should frame policies by considering various challenges faced by hospitals. And after implementing the environmental policies the government should also monitor the activities and should conduct environmental auditing. These small changes have greater impact on environment. Green concept helps the planet and the whole society to lead a longer and healthier life.

VIII. REFERENCES

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