Sustainable Development in Healthcare

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ABSTRACT

The implementation of the concept of sustainable development in the establishment of “Green Hospital” is attracting growing interest. The health sector and, in particular, a hospital may affect the environment and the economy in the a) maximization of energy consumption b) waste of natural resources c) difficulty in waste management due to their rapidly increasing volume d) construction of non-friendly for people and environment buildings e) growing demand for funds to cover operating expenses. Moreover, it seems that the strategic planning of a Green Hospital can cause significant changes to: a) Energy saving – Green development – Environment protection; b) Building reconstruction; c) Improvement of provided services to citizens; d) Saving of financial resources. Therefore, efforts should be made to save energy and money in the hospitals through sustainable development projects. Finally, the Green Hospital has the potential to provide improved therapeutic results for patients and more pleasant and comfortable working environment for employees.

Keywords: Energy Saving in Healthcare, Green Hospital, Sustainable Building, Sustainable Development in Healthcare, Sustainable Development

INTRODUCTION

The concept of sustainable development in healthcare is attracting growing interest and may be applied in the project of “Green Hospital” (Tan, 2015). “Green Hospital” is the Hospital with the initiative to take at least one of the following actions:

A. Location of an environment-friendly area;
B. Implementation of sustainable and efficient plans and procedures, during its construction and operation;
C. Use of renewable energy resources on the site;
D. Installation of electromechanical facilities prone to energy saving;

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E. Facilities on site which recycle and reuse materials, reducing the production of polluted waste.

   The movement “Green Hospital” was generated some time ago in USA, when the U.S. Green Building Council (USGBC) published the “Leadership in Energy and Environmental Design (LEED)” certification program (Green Building Education Services, LLC, 2011). The program dealt with the construction and the conversion of sustainable buildings.

   In the traditional hospitals, the following problems can be identified:

   A. Excess energy consumption. Energy-consuming hospital installations are: the air conditioning (heating-cooling), the lighting, the hot water, the steam for central sterilization, laundry, kitchen etc., the elevators, the compressed air and the medical gases, the medical equipment and other loads.
   B. Waste of natural resources, i.e. water consumption for cleaning, disinfecting, asepsis, etc.
   C. Difficulty in the management of wastes due to their rapidly increasing volume and the production of hazardous for the environment and the human health wastes, i.e. culture systems in diagnostic laboratories, pharmaceutical wastes.

   A WHO (2014) publication urged hospitals proactively to address the environmental pollution created by healthcare by reducing energy consumption, through the use of alternative energy sources, recycling and conservation of resources.

   Apparently, the strategic planning of a Green Hospital, focusing on the following areas, can work in this direction and make substantial changes:

   A. Energy saving - Green development - environmental protection, through the following pillars: reduced water and energy consumption; alternative energy; self-sufficiency in energy production; reduced generation of pollutants and waste recycling; management and disposal of medical waste in environment-friendly ways.
   B. Reconstruction of the building infrastructure, using sustainable construction materials with a novel Green philosophy in architectural design and construction site.
   C. Upgraded healthcare, through the introduction of nutritious, sustainable foods and nutritional systems, effective transport within and around buildings.
   D. Saving of financial resources (Mickaityte, 2008).

THE PROCESS OF SUSTAINABLE DEVELOPMENT IN A HOSPITAL

   As the Hospital construction projects continue to subsist with an even upward trend, health managers are increasingly turning to Green innovations and environment-friendly practices. Not only in the design, but also in building construction and in health services management (Stichler, 2009). More infrastructure projects are anticipated to focus on energy sufficiency and output together with the use of special for Green buildings materials, which would differentiate them from standard manufacturing techniques.

   Buildings and facilities can significantly contribute to the organization’s carbon footprint. The architecture and design of the hospital buildings influence the carbon produced by them, over time. For a global approach to a Green Hospital, there is a need to consider upfront the initial
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