



WASTE REDUCTION STRATEGIES WITHIN HOSPITALS TO PROMOTE ENVIRONMENTAL SUSTAINABILITY AND ECONOMICAL BENEFITS

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Background

- A study in 2015 reported the average hospital in the United States exceeds 11.3kg (25lb) of waste per patient per bed
- In 2012, Research identifies a total of 6,000 tons of waste per day per hospital → 5.9 million tons per year
- Practice Greenhealth, an organization targeting health care related resource issues, published a "Greenhealth eco-checklist" to provide strategies to assist healthcare professionals with waste management:
 - An annual report of the top-performing facilities demonstrated an average saving of:
 - 338 tons of waste
 - 901 thousand gallons of water were spared
 - 1.85% of their annual energy consumption
- A hospital in Royal Oak, Michigan received \$500,000 from a combination of two years of energy rebates due to implementing "green friendly" changes

Aim

- Research suggests that most of the disposable (single-use) medical products and services currently being used can be constructed to become reusable
- Evidence points to a dire need of remodeling our "footprint" by eliminating waste while increasing profits through changes such as introducing and normalizing reusable products within hospitals

Outcomes

- Overall, reusable products demonstrated a more cost efficient route when compared to single-use disposable alternatives
 - Less water used during cleaning process
 - Lowest total embodied energy required
 - Lowest GHG emission
- Economically, a \$540 million annual savings is estimated if consumers consistently invest in purchasing reusable or repurposed supplies
 - Estimating a total savings of \$2.7 billion at a five year mark

PICO Question

Does the implementation of reusable products for medical purposes create positive environmental and economical impacts versus utilizing disposable items?

Methods

- Research compared cradle-to-grave environmental and economical significance of common medical resources and procedures in each form; reusable versus disposable materials:
 - Green House Gases
 - Energy Use (cleaning process),
 - Water Consumption (cleaning process)
 - Economical Impacts (U.S. currency)
- Some studies analyzed cost outcomes correlated with U.S. hospitals identified by green-oriented institutions who have reduced their environmental footprint by implementing both energy and waste reduction strategies while utilizing reusable/repurposed supplies

Recommendations

- **Macro Scale:**
 - Hospitals need to employ this information by taking advantage of reusable/biodegradable medical products
- **Micro Scale:**
 - Utilize 3rd World Bins
 - Recycle plastic, paper, cardboard, metals and glass when appropriate
 - Minimize unnecessary use of non reusable items (toothbrushes, straws, cups, toothpaste, patient hygiene bottles)

