

Evidence-Based Change Paper

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Food Waste Management in Hospitals: A Proposed Change

A patient returns to their hospital room from surgery and at lunch time is served an entire tray of food. While the meal is wholesome and complete, consisting of a hearty soup, fresh whole-grain bread, a salad with protein, and a drink, most of the meal is wasted due to the patient's decreased appetite. While this one patient's discarded meal might not seem like a huge problem, multiply this surplus food by hundreds of other patients with diminished appetites due to illness. According to *Modern HealthCare* hospitals generate approximately three pounds of waste per bed per day. This waste includes expired food, overproduction, and food returned by patients. (Howard, 2016). The unfortunate outcome is hundreds of thousands of pounds of food being thrown away into landfills. This is a daily scene observed in clinical settings. Entire trays of food are poured into the trash with other discarded items. While it might ease the minds of healthcare workers if the food was disposed of in green waste or compost bins, the food is all tossed into regular trash bins headed for landfills. This high proportion of food waste sent to landfills has negative environmental impacts that contribute to climate change. Not only do these landfills take up valuable space, as food decomposes it generates methane, a potent greenhouse gas with a global warming potential 28 times greater than that of carbon dioxide. (Green, 2017) This is only one consequence of food waste in hospitals, without considering the financial impact of wasted food, as well as the energy, freshwater, and land that goes into producing that food. While specific regulations and rules make it challenging to avoid food waste in hospitals altogether, there are a variety of evidenced-based changes that can be implemented to reduce the amount of food thrown out in hospitals. The end result is a happier planet and even a solution to food insecurity.

The best approach to combatting food waste in hospitals is by addressing this issue from multiple angles. Food waste can occur at any stage of the foodservice system, including storage, preparation, cooking, and service. However, where the most waste occurs is at the point of consumption. "Complex food planning systems utilized by hospitals reflect a trend toward over production of food, and poor appetites of hospitalized patients" (Goonan, 2014) Because there is an overproduction of food and an expectation of patients having a reduced appetite during their stay in the hospital. Adopting a room service model would help decrease unnecessary food being placed in front of patients who won't eat it. A real-world example would be UCSF Health, where they have adopted a room service model to reduce waste, resulting in a 30% decrease in food waste. Patients can order a wide variety of meals from a large, vibrant menu, which includes serving breakfast all day. Patients are free to order whenever they feel hungry, between 7am and 8pm, and the food is delivered within 45 minutes. (Green, 2017) This model benefits patients by reducing wasted food and enhancing their nutrition, which speeds up recovery time and increases patient turnover. Another study found that room service reduced plate waste from 30% to 17% compared to the traditional food service models (McCray, 2018) Another aspect of this proposal for reducing hospitals' organic waste is to accurately measure and track the wasted food. "Raising awareness of what is being thrown away, making the actual costs more visible, adjusting purchasing, production, and menus, and training staff will all contribute to reducing waste." (Green, 2017) UCSF Health was able to reduce food waste by 50% by educating staff about how to reduce waste and tracking discarded food. Assessing food preparation processes is incredibly important because it allows for constant reevaluation of the current food needs of hospitals, which may change frequently. The next step of this proposal is the donation and repurpose of any unused food that is safe to give away. By creating partnerships with

neighboring organizations, hospitals can help reduce food insecurity and feed those in need. At the same time that all of this nutritious food is discarded, nearly one billion people around the world go hungry (FAO, 2021). Donating food promotes a circular food economy that helps meet societal demands, as well as assists hospitals in establishing relationships with the community that they serve. Suter Health, Kaiser Permanente, and UC Davis Health are among some of the many hospitals aiming to end global hunger. By diverting hospital food waste and getting it to those in need, thousands of families gain access to nutritious food that would otherwise go to waste. Kaiser Permanente of Southern California donated over 95,000 pounds of food to low-income families and children, which is enough to provide nearly 80,000 meals. This donation also prevented carbon dioxide emissions from entering the landfill. (Kaiser, 2022) The last step of this proposal focuses on properly disposing of food that is unfit for consumption. By providing green bin receptacles in hospitals, food that would otherwise end up in landfills is made into compost. UC Davis Health partners with the organization California Safe Soil and is one of the first hospitals to take real, non-edible food scraps, like grape stems and melon rinds, from their production kitchen and mechanically break them down into a liquid form. This liquid is then used to fertilize crops, completing the circle of life for the food. Additionally, it increases crop yields by 20-30% while using less water and fewer pesticides. (Null, 2022) Partnering with innovative organizations like these will shrink hospitals' carbon footprint and help fight the climate crisis.

The change theory that is most applicable to the proposal of reducing food waste in hospitals is Lewin's three step model of change. In order to achieve sustainable results while the proposal is being implemented, Lewin's three steps of unfreezing, movement, and refreezing will be utilized. This model is beneficial because it focuses on the three stages of change and how

hospitals will progress from one stage to the next. This model will help in understanding the barriers and challenges that staff and patients may face in reducing food waste. During unfreezing, defining clear goals is essential. The more specific the goals, the more effectively they can be addressed. Goals should also be operational, meaning they are clearly defined in terms of content, time, and scope. Afterward, it is important to decide which of the prioritized measures to implement in order to reach the goals set. (Strotmann, 2017) Unfreezing is a vital step in changing the food waste management system in hospitals because it assesses how willing and motivated hospital employees are to abandon their current methods and adopt new practices. This can be a challenging process as it requires changing established routines and overcoming resistance to change. The hospital must be prepared to back their staff with support and resources in order to make a positive impact on food waste reduction. During the movement stage of Lewin's change theory, the new practices are adopted and implemented. Change requires driving forces that direct behavior away from current practices, and thus education is incredibly important to maintaining this change. The inspiration behind this initiative is the desire to reduce food waste and its associated environmental, economic, and humanitarian impacts. The movement stage will involve making changes to hospital policies and procedures, training staff, and engaging patients in the food waste reduction program. This stage will be addressing the issue from multiple angles, including education, production, tracking, donation, and repurposing. Ultimately, the goal is to establish new habitual practices that make food waste reduction a routine part of hospital operations. Once measures are successfully implemented, the refreezing step begins, where the changes become embraced and incorporated into daily work life. To generate enthusiasm and commitment, employees need to feel invested in the project. Hospital staff should be involved in the planning and implementation of phases of the food waste

reduction program to give them a sense of ownership and investment in the success of the program. Providing feedback and recognition also fosters a sense of community around the project that helps staff feel more connected and committed. By involving staff, providing feedback and recognition, and creating a sense of community, hospitals can reduce their environmental impact, improve patient satisfaction, and decrease costs.

Implementing changes often presents challenges. However, this proposal offers a significant advantage by addressing two common causes that everyone cares about: global hunger and climate change. To reduce food waste in hospitals using Lewin's three-stage model, it is essential to allow staff to share their opinions and suggest best practices for implementing this change. When in the unfreezing stage, it is important to recognize the need for change and challenge the current system in place. A challenge that may arise is adapting the new protocols, which may be more time consuming. There may be resistance to change and questions about why the change is happening. The hospital should be ready to answer any questions and provide support to those who find adopting the protocols challenging. During the movement stage new practices are accepted and education is provided to staff. Challenges that may arise could be resistance from staff or patients, lack of resources, or difficulty in tracking waste reduction progress. During this stage, it is important to allow room for error and growth. Change doesn't happen overnight, and staff may need encouragement. To address these challenges, it is important to provide adequate education and support to staff and patients, encourage participation, and allow staff to be heard by listening to their feedback. In the final step of Lewin's three-stage model, unfreezing, the change is integrated into daily workflow and considered the new standard. A challenge that may arise during this stage could be the difficulty in maintaining the changes over time. To address this challenge, it is important to provide

ongoing support and resources, incentivize involvement, and regularly track and communicate progress towards waste reduction goals. Allowing staff to visualize their progress and see how many people they have helped or how much waste they have offset, will help carry the project forward and encourage those who are slow to adopt change. Continual monitoring and assessment of the program's success will also be necessary to identify areas for improvement and make appropriate adjustments. Regular feedback from staff and patients can provide insights into the program's effectiveness and help identify challenges and opportunities for improvement.

Reducing food waste in hospitals is a complex issue that requires a multi-faceted approach. By adopting evidence-based changes such as a room service model, accurately tracking wasted food, donating unused food, repurposing and properly disposing of food, hospitals can significantly reduce their food waste and support a brighter future for the planet. Implementing changes often presents challenges, but using Lewin's three-stage model of change can help hospital staff and healthcare workers overcome resistance to change and establish new practices. It is important to involve staff in the planning and implementation of food waste reduction programs, provide support and resources, encourage participation, and frequently track and share progress towards waste reduction goals. Although it might be impossible to eliminate food waste in hospitals altogether, addressing the issue of food waste in hospitals will help combat climate change, reduce costs, decrease global hunger, and improve the overall health of patients.

Resources

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