



Reducing Carbon Footprint and Costs in Healthcare: The Impact of Reverting to Pre-COVID Waste Management Practices

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Abstract

Background: Approximately 5% of NHS emissions are caused by waste and water use. During the COVID-19 pandemic, low-cost, energy-efficient waste streams were replaced with more energy- and carbon-intensive alternatives. After the pandemic, these changes were not reversed, leading to increased environmental and financial impacts.

Methodology: A 24-hour baseline audit of waste streams was conducted on a ward, categorizing waste into dry recycling, domestic, tiger-striped offensive, and clinical waste. Costs and equivalent carbon dioxide (eCO₂) emissions were calculated based on the weight of each waste stream. In collaboration with infection control, waste streams were reverted to pre-COVID arrangements. A second audit was performed to reassess waste production, costs, and eCO₂ emissions after implementation of the changes.

Results: The baseline audit revealed no dry recycling and 5 kg of domestic waste, alongside 42.5 kg of offensive and 5 kg of clinical waste. After reverting to pre-COVID waste streams, dry recycling increased, while offensive and clinical waste production decreased significantly, leading to reduced costs and eCO₂ emissions. Clinical waste, the most expensive and carbon-intensive stream, was halved, and the domestic-to-offensive waste ratio decreased by 0.8. Extrapolating these changes across the trust, we estimated annual savings of over £20,000 and a reduction of 17,000 kg eCO₂.

Conclusion: Reverting to pre-COVID waste management practices demonstrated substantial financial and carbon savings. These findings highlight the importance of sustainable waste management in reducing environmental impact and optimizing healthcare costs.

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