

Gerry Murphy Prize Abstract

Interventions to reduce greenhouse gas emissions from health system waste: a systematic review

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Background: The health system contributes 5-7% of Australia's total greenhouse gas emissions. Medical devices and other health system solid waste are major contributors, and effective interventions to reduce waste and emissions need to be implemented.

Objectives: To review principles and interventions that have been implemented in Australia and other high-income countries to reduce the greenhouse gas emissions of solid waste in the health and aged care sectors.

Methodology: A systematic review of primary research articles and systematic reviews published in English between 1 January 2008 and 31 December 2023. CINAHL, Medline, Scopus, Web of Science Core Collection, and Google Scholar databases were searched and supplemented by manual searches of reference lists.

Results: 109 studies were included. Seven studies originated from Australia. A range of waste management interventions were described, including: removing rarely used single-use items from surgical packs; reusing personal protective equipment, surgical textiles, procedural instruments and non-invasive medical devices; introducing recycling streams; and training staff on appropriate waste segregation.

Discussion/conclusion: Examples of interventions to reduce waste and associated greenhouse gas emissions exist across the waste hierarchy and in most areas of health and aged care delivery. The evidence supports prioritisation of interventions further up the waste hierarchy, namely "reduce" and "reuse" interventions.