

Reduce Waste and Emissions from the Supply Chain

The health care sector is a major source of health care waste (1). Health care waste has an impact on the planet—transporting waste to landfills via fossil fuel-burning trucks increases greenhouse gas emissions. Landfills emit methane and garbage-burning incinerators are sources of dangerous pollutants. Improper waste incineration practices cause air pollution and landfilled health care waste may contaminate ground, surface, and drinking water (2). Scope 3 emissions, which come from sources outside of the health care organization's direct control, such as pharmaceuticals and chemicals, make up over 80% of health care sector emissions. Making environmentally conscious decisions throughout the life cycle of the resources used by the health care sector, from the extraction of materials, manufacturing process, distribution, usage, and end-of-product-life decisions, can help to reduce greenhouse gas emissions. By reusing and recycling materials, the health care sector can reduce demand for materials used in the manufacture of end products, including wood products that act as carbon sinks. Raising awareness is important: one of the most effective ways to reduce health care waste is to educate health care professionals about environmentally sustainable waste management.

There are several ways hospitals and other health care facilities can reduce waste and supply chain emissions:

- **Demand supply chain organizations adopt sustainable practices:** Prevent waste by purchasing low environmental impact goods and supplies from suppliers committed to sustainability (3). Choose products with limited or zero packaging waste or with packaging that is recyclable or compostable.
 - Providence St. Vincent Medical Center in Portland, OR, used clinical use data and environmental impact assessments to right-size supply purchases, lowering their carbon dioxide emissions, water use, and costs (4).
- **Recycle medical and nonmedical products:** Eighty-five percent of health care waste is nonhazardous and could be recycled (5). According to the Healthcare Environmental Resource Center, U.S. healthcare facilities generate nearly 2 billion pounds of paper and cardboard waste a year (6). If your practice contracts with a paper shredder service to meet privacy law requirements, make sure that they recycle shredded material.
 - Procurement staff should purchase items made of recycled materials. Consult the [EPA Comprehensive Procurement Guideline Program](#) for additional information.
 - Healthcare Without Harm has a comprehensive list of materials that health care facilities may be able to recycle: https://noharm-uscanada.org/sites/default/files/documents-files/2379/Recycling_Fact_Sheet.pdf
- **Reuse, reprocess, or refurbish single-use devices when appropriate:** Single-use devices including arthroscopic/orthopedic and laparoscopic devices end up in landfills and use energy during manufacturing, disposal and transport. While some medical devices, such as intravenous catheters and syringes, should be recycled, many devices can be safely reprocessed and reused to reduce waste, emissions, and costs (7).
- **Reclaim and recycle construction waste:** The EPA estimates that the nonresidential construction sector generates an average waste rate of 4.34 pounds per square foot (8). For a 250,000 square foot medical facility, that equals nearly 1.1 million pounds of construction and demolition waste (9). By reclaiming or recycling materials like drywall, asphalt, shingles, metal, and cardboard, waste disposal and transportation emissions, as well as demand for raw materials, can be reduced.
- **Decrease food waste:** Food waste releases methane, a potent greenhouse gas (10). To address its food waste problem, New York-Presbyterian/Queens Hospital installed an organic waste decomposition system which reduced methane and waste disposal emissions and saved money. After determining they were disposing of about 550 pounds of food waste per day, staff adjusted portion sizes and decreased food waste by hundreds of pounds per week (11).
- **Capture and reuse anesthetic gases:** Waste anesthetic gases contribute to global warming and ozone depletion (12) and exposure to high concentrations may cause headaches, fatigue and nausea (13). Innovative anesthesia gas scavenger systems can capture and potentially recycle wasted gases so they can be reused, mitigating environmental and health-related harm and lowering costs (14,15)

Resources:

U.S. Environmental Protection Agency Recycling Resources: <https://www.epa.gov/recycle>

Healthcare Environmental Resource Center: <http://www.hercenter.org/index.cfm>

U.S. Environmental Protection Agency Comprehensive Procurement Guideline Program: <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>

Health Care Without Harm: Sustainable Procurement Resources <https://noharm-global.org/procurement/resources>

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