Healthcare and the Environment: Emissions and Effects of Surgical Models and their Material Use

The growing field of sustainability research endeavors to confront a fundamental challenge of our society–how do we streamline our current consumption while simultaneously ensuring we can achieve our future requirements? In no area is this more evident than US healthcare. Spending on healthcare has reached nearly 18% of the US GDP. The industry utilizes 73 trillion kWh of electricity and produces over 3.4 billion pounds of waste per annum, making the US healthcare sector one of the leading climate polluting industries, responsible for 8% of total US greenhouse gas emissions. It is imperative that sustainable models of healthcare be implemented as services expand to accommodate larger populations, longer human lifespans, increases in the burden of chronic conditions, and global climate change.

This presentation will cover the basics of sustainability and the environmental emissions quantification tool, Life Cycle Assessment (LCA), in the context of hospitals and operating rooms. Case studies applying LCA to hysterectomy in the US and cataract surgery in India will be discussed, including the efforts taken by study locations to minimize their material and environmental footprint. A more environmentally, socially, and financially sustainable healthcare model will only be possible through understanding the current systems of delivery and actively changing the direction of global medical practice.

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