

Reducing the Environmental Impact of Healthcare Systems

Between Frugal Innovation and AI

This open access book provides a unique and timely perspective at the intersection of healthcare sustainability, digital transformation, and responsible innovation. It explores sustainable development in healthcare systems through reducing their environmental impact. Some of the strategies this book explores are: lean, normative and procedural (frugal innovation); and engineering, technological (artificial intelligence). This book discusses the significant contribution of the healthcare industry to global environmental degradation, accounting for an estimated 4–8% of total carbon emissions in many countries. This book addresses the gap between the intention to change and the lack of practical frameworks and integrated approaches to guide meaningful change. It does this by proposing a systemic and actionable vision that combines the low-resource ingenuity of frugal innovation with the optimization potential of AI and provide heuristics to engage in reducing impacts in the healthcare sector.

Building on the author's previous work on innovation and well-being and ongoing work within the healthcare sector, this book serves as a concise, interdisciplinary guide for rethinking how we deliver care in an ecologically responsible and socially equitable manner. It invites readers to envision a future where smarter, simpler healthcare systems help heal not only people but also the planet.

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