

ENVIRONMENTAL IMPACT SHOULD BE CONSIDERED AN IMPORTANT OUTCOME IN STUDIES

We read with great interest the recent article by Toor and colleagues regarding the optimization of surgical trays using a customized mathematical model.¹ The main benefit articulated in the study was that streamlining surgical trays led to cost savings. A customized mathematical model used in conjunction with clinician review allowed for a reduction in financial costs while avoiding the removal of essential, but rarely used, instruments from the surgical tray.¹

One additional benefit that we feel should be highlighted is the decreased environmental impact resulting from these changes.

Toor and colleagues nicely describe the costs of “overage” and “underage” associated with unoptimized surgical trays. Each of these financial costs are associated with a carbon footprint — one that can simultaneously be decreased by the concepts presented in the study. Within existing quality-improvement (QI) frameworks, Mortimer and colleagues have described moving to a sustainable QI (SusQI) model in which the usual QI equation of outcome and economic cost is enhanced with the addition of social accountability and environmental cost metrics.² Coined as the “triple bottom line” approach, the SusQI model includes the environmental,

social and economic costs associated with the provision of health care services. With health care having a massive carbon footprint — equivalent to the fifth highest emitting country in the world if taken as a whole — we need to shift our culture to a point where we consider our environmental impact in our day-to-day decision making whether it is at an individual, office, or organizational level. As surgeons, we can utilize a framework focusing on prevention of disease in aims to minimize our health care environmental footprint and decrease high-emission interventions.³

Similar to mathematical models that Toor and colleagues used to quantify their financial cost savings, recent work by the Coalition for Sustainable Pharmaceuticals and Medical Devices through the National Health Service has provided guidance on how environmental metrics associated with various healthy processes can be quantified.⁴ Using these tools, we can adopt environmentally conscious practices, such as developing optimized surgical trays, to incorporate sustainability into our everyday metrics.

In the context of the climate emergency, it is important to explicitly consider and state the environmental impact various interventions and research projects have. Drawing attention to this topic should strengthen the impetus to implement the findings of research such as this.

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