

## OP16 “Progress Is Impossible Without Change”: A Case Study To Feasibly Incorporate Environmental Sustainability In Health Technology Assessment

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**Introduction:** Environmental sustainability and its incorporation in health technology assessment (HTA) is becoming increasingly researched globally. However, this has yet to lead to a significant impact on HTA processes. This research presents a novel case study, demonstrating how available methods can deepen the understanding of evidence-based approaches to healthcare decision-making and support HTA sustainability policy development.

**Methods:** A decision-analytic model was developed for a digital health technology used to support primary care in the diagnosis and triage of musculoskeletal conditions. The model mapped the potential impact on the care pathway, capturing differences in resource use, including appointments, medications, diagnostic tests, surgical procedures, and other nonpharmacological treatments. The model was populated from a UK perspective and captured both health economic impact and carbon dioxide equivalents (CO<sub>2</sub>e) impact. Additional potential environmental impacts were then considered qualitatively as part of the evaluation.

**Results:** The health economic modeling approach captures all stages of the patient care pathway and resource use demonstrating its practicality for simultaneously mapping out the carbon impacts. This methodological approach is reproducible, transparent, and provides a standardized tool for use in future carbon-cost-comparison modeling. This would present decision-makers with more complete information. There are some limitations to this approach, such as ambiguity regarding some carbon data estimates used, but it still provides a more useful summary than no estimated quantification.

**Conclusions:** Adapting HTA will support wider efforts in health systems to reduce environmental impacts. This model can be practically applied to account for both cost and carbon data, facilitating a holistic and environmentally sustainable approach to decision-making. As part of encouraging additional research into the environment, HTA agencies will need to provide “incentives” for companies to undertake this additional research.

## OP17 Methods To Measure The Environmental Impacts Of Health Technologies And Include Them In Economic Evaluations: A Scoping Review

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**Introduction:** The environmental footprint of the healthcare sector is widely acknowledged and increasingly impacting decision-making in health policy. This study aims to explore what methods and metrics have been proposed to measure environmental impact of health technologies, and to investigate the feasibility and consequences of its inclusion in economic evaluations. This study is part of a larger Horizon Europe project, HI-PRIX.

**Methods:** We conducted a PRISMA-ScR-guided scoping review of the scientific publications in PubMed, Web of Science, and Scopus between 2013 and November 2023. For the grey literature, the international HTA database and HTA agencies websites were searched to identify ongoing or published HTA dossiers. The search strategy was developed around two concepts: environment and health technology assessment. Any study or report that described a conceptual framework, methodology, or approach used or theorized to integrate environmental impacts of health technologies in an HTA was considered eligible for inclusion.

**Results:** Starting from 12,336 records, 16 scientific publications and 6 HTA dossiers were included for analysis. One-third of the contributions were published in 2023 and were mostly opinions, editorials, reviews, or economic evaluations. Lifecycle assessment was considered the preferred approach to investigate environmental impacts, yet difficulties exist; for example, methodologies for measuring greenhouse gas emissions are established, while for other dimensions are under development. Nevertheless, methods to incorporate environmental impact into economic models appear viable. About half of the papers analyzed cost–utility analysis, multiple-criteria decision analysis, and cost–benefit analysis as potential approaches. Fewer papers addressed budget impact, cost-effectiveness analysis, or other approaches.

**Conclusions:** Incorporating the environmental impact of health technologies in economic evaluations is under development, but consensus is still lacking on appropriate, feasible methodologies for its uptake. Before considering it in pricing or reimbursement-related decisions, the preferred method to maximize utility levels of different stakeholders (e.g., HTA agencies, industry) needs clarification.