OP18 Incorporating Environmental Impacts In The Economic Evaluation Of Health Technology Assessment: State Of The Art And Challenges

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Introduction: Environmental impact has been poorly addressed in health technology assessment (HTA) processes despite its potential role in promoting more sustainable health systems. Initiatives to incorporate this dimension into economic evaluations (EE) that support HTA are few and far between. We aim to identify the state of the art and challenges for incorporating environmental impact into the EE of HTA.
Methods: We conducted a scoping review to identify publications on the assessment of the environmental dimension of health technologies from different approaches: establishment of theoretical frameworks and methods; data search strategies; identification of parameters, designs, and indicators; as well as descriptions of practical applications in HTA (literature review, EE, or budget impact analysis). The literature search was conducted through PubMed. Selected studies should provide insights to incorporate environmental impact into the EE of HTA regardless of the technology or environmental aspect considered (carbon footprint, use of resources, waste generation, etc.).
Results: From a total of 219 references initially identified, 22 publications meeting the selection criteria were found. The holistic approach is recognized as the most appropriate for incorporating the environmental dimension, through the evaluation of the entire life cycle of the technology, as well as the management of the disease and the use of resources throughout the care process. A large amount of information and accurate estimates about the impact of the technology are needed. Therefore, the first reported approaches have focused on particular aspects of the environmental impact of a health technology (mainly the carbon footprint).
Conclusions: The practical incorporation of the environmental dimension into the HTA is still very incipient. Foundations have begun to be established for its incorporation into economic evaluation. A consensus is required on the most appropriate methodologies and tools to collect the necessary data. It would also require a multidisciplinary approach and a framework for cooperation between all the stakeholders.

OP19 Multiple-Criteria Decision Analysis: Techniques To Support Environmental Sustainability Framework Development In Health Technology Assessment

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Introduction: Technical and trade-off issues to incorporating environmental data in health technology assessment (HTA) decision processes are known. Multiple-criteria decision analysis (MCDA) has been successfully used across disciplines, supporting multifaceted technology decision-making. Challenges in prioritizing environmental criteria, resource constraints, and other criteria to assess technologies can be overcome through the application of MCDA, also used in conjunction with other techniques in HTA.
Methods: A systematic review of methods to evaluate environmental sustainability in HTA was conducted following the PRISMA guidelines. Using a comprehensive search strategy, Ovid Embase, Web of Science (all databases), PubMed, EBSCOhost GreenFILE, IEEE Xplore, international HTA database, Cochrane Library, and grey literature were searched. The review analyzed the following broad themes: methods to overcome barriers, including how methods can handle "trade-off" issues between financial and environmental considerations; resource and expertise constraints; and data quality issues. This review determined how comprehensive the methods are for assessing sustainability in HTA. Frameworks were also ranked based on their overall transparency and feasibility.
Results: This review (SR) identified 10 key studies. Half of these studies outline MCDA models within the frameworks. All MCDA studies have been combined with other techniques to support sustainable technology decision-making HTA. Analytical MCDA models with roots in mathematics are highlighted as reproducible techniques to support multifaceted decision-making, particularly where there are conflicting criteria. Analytical hierarchy process (AHP) used in conjunction with a circular economy framework for health technology supports global health system net zero and wider sustainability goals. A performance matrix model elicits outcome trade-off by assigning weights to costs, technical performance, and environmental outcomes.
Conclusions: The multidisciplinary findings of this research provide valuable insight in an area where there is currently limited research, confirming and expanding on previous scoping reviews. The results highlight several comprehensive MCDA models supporting HTA sustainability framework development. Further research is warranted into the feasibility of the frameworks. Study selection and data extraction were undertaken independently due to project time constraints.

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