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Advanced Al Assessment

Multiple Criteria Decision Analysis





MCDA Definition

"MCDA: A set of methods and approaches to aid decisionmaking, where decisions are based on more than one criterion, which make explicit the impact on the decision of all the <u>criteria</u> applied and the relative <u>importance</u> attached to them."

Source: Nancy Devlin and Jon Sussex. Incorporating multiple criteria in HTA: Methods and Processes. OHE, 2011

Multiple objectives





MCDA Definition

- Inclusion of any social value in priority setting;
- Alternative to the cost effectiveness analysis;
- Approaches to priority setting in health:
 - Cost effectiveness;
 - Burden of diseases;
 - Equity analyses.
- ... Developed in isolation from each other!
- MCDA is a method to allow such a trade-off between various criteria, and establish the relative importance of criteria in a way that allows a rank ordering of a comprehensive set of interventions.







Source: Marsh, K., Goetghebeur, M., Thokala, P., & Baltussen, R. (Eds.). (2017). Multi-criteria decision analysis to support healthcare decisions (Vol. 10, pp. 978-3). Cham: Springer International Publishing.





Step 1: Defining the Step 8: Decision Reporting *Step 2:* Problem Results, Selecting and Deliberation. Decision, Structuring Communication Criteria and Implementation *Step 7: Step 3:* Dealing with Weighting Criteria uncertainty Step 6: Step 4: Aggregating Providing Data for Evidence to Ranking, Measure Investing, and Step 5: Scoring Performance Disinvesting the Criteria to Evaluate Performance

Guidelines

Source: ISPOR Report 2 of the MCDA Emerging Good Practices Task Force, 2016.





HTA Core Model®

Dimension	Description
Health Problem and Current Use of the Technology (CUR)	 Target groups; Burden caused by the health problem; Alternatives to the technology.
Description and technical characteristics of technology (TEC)	Technical characteristics;Material and/or requirements.
Safety (SAF)	• Harmful effects.
Clinical Effectiveness (EFF)	 Efficacy: extent to which a technology does more good than harm under ideal circumstances; Effectiveness: whether a technology does more good than harm when provided under usual circumstances of health care practice.
Costs and economic evaluation (ECO)	• Value-for-money judgements: costs compared to information from SAF and EFF.
Ethical analysis (ETH)	 Beliefs, standards of conduct, principles and rules which may guide personal and professional behaviour and the behaviour of institutions; Social consensus.
Organisational aspects (ORG)	Mobilization and organization of resources.
Patients and Social aspects (SOC)	• Issues relevant to patients, individuals and caregivers.
Legal aspects (LEG)	• Identification of relevant rules and regulations (patients' rights and societal interests).

Action, E. J. (2016). 2, Work Package 8. HTA Core Model[®] version 3.0.



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Thank you