MULTI-CRITERIA DECISION ANALYSIS FOR EVALUATING NEW MEDICINES IN HEALTH TECHNOLOGY ASSESSMENT FRAMEWORK ANALYSIS

BACKGROUND
Escalating medicine prices have catalysed the generation of numerous ‘value frameworks’ with the aim of informing payers, clinicians and patients on the assessment and appraisal process of new medicines for the purpose of coverage and treatment selection decisions. Furthermore, medicine evaluation has to deal with more uncertainty, which highlights a need to determine the value of pharmacologic innovation from many issues. Multiple-criteria decision analysis (MCDA) has appeared as a methodology to address the limitations of economic evaluation in health technology assessment (HTA). However, there is limited empirical evidence from real-world applications.

PURPOSE
The objective of this study was to review the use of the MCDA methodology as a tool for the HTA of new medicines in Europe and to determine the differences between the diverse published MCDA frameworks.

MATERIAL AND METHODS
PubMed/MEDLINE, Scopus and Web of Science databases were searched for articles published up to December 2017. Two reviewers independently screened the extracted articles for eligibility. Thirty-four articles were extracted from the full-text assessment. MCDA frameworks were identified, and criteria and use were compared between them.

RESULTS
Six main MCDA frameworks were identified from the final article list: The Value Measurement Model, The Probabilistic Model, the EUnetHTA core Model, the EVIDEM model and the Advance Value Model.

The framework models identified have common approach criteria with an impact on the treated disease, safety and clinical efficacy of medicines. Perspectives in the assessment of economics, social and ethical issues were frequent but with different approaches.

CONCLUSION
MCDA methodology is not yet used in most European countries. Differences in criteria representation between identified frameworks demonstrate the lack of consensus in MCDA use with the HTA decision-making of new medicines. Further research is needed to optimise its use as part of policymaking.

REFERENCES AND/OR ACKNOWLEDGEMENTS
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