

SWAT 74: Effects of the use of multi-criteria decision analysis (MCDA) on decision quality in an online Delphi (Delphi MDQ)

Objective of this SWAT

To examine the effects of using multi-criteria decision analysis (MCDA) as a support tool to the online Delphi process.

Study area: Decision Quality

Sample type: DELPHI Participants

Estimated funding level needed: Medium

Background

This SWAT (Delphi MDQ) is being implemented in an online Delphi study, which is seeking to determine what declarations and methods are useful to include when building the protocol for a participatory online trial. It is part of a project to develop improved methods for designing participatory randomized trials. After building a database of such trials and preparing a descriptive analysis of them,[1] we completed a systematic overview of systematic reviews,[2] and followed this with an analysis of self-management online trials in health. During this work, we encountered a lack of standardization, insufficient guidance for implementation and significant research reporting weaknesses with online trials and wanted to investigate how decision-making support tools affect decision quality. Therefore, we developed this SWAT to do so inside an online Delphi study.

The software to be used - the Annalisa implementation of multi-criteria decision analysis (MCDA) customizes and personalizes the user data visually,[3] so the aggregated Delphi outcome can be shown side-by-side with the input of the individual participant. The display shows criterion weightings, option performance ratings and (weighted) option scores separately. The system is dynamic and can change with additional information fed into the software just as peoples' importance weighting for criteria (preferences) and option performance ratings change according to their conditions, new options available, and resource costs. The necessity and ability to trade-off practicality (including resource constraints) with conventional rigorous research methods is emphasized and allows for the development of informed choice within the Delphi environment and without the trappings of the cultural or emotional bias of others [4] or the rejection of practical methods in favour of untested ones.

MCDA support will be tested in an online Delphi study to assess the effects when consensus panels take part in the Delphi study with or without MCDA. Those randomised to the MCDA group will use the software before the consensus meeting.

Interventions and comparators

Intervention 1: Delphi consensus discussion only

Intervention 2: Delphi consensus plus MCDA

Index Type: Method for decision-making

Method for allocating to intervention or comparator

Randomisation

Outcome measures

Primary: Decision quality score on My Decision Quality (MDQ) with particular interest in heterogeneity in both randomised trials

Secondary: Variable of interest; time to consensus

Analysis plans

The data will be analyzed quantitatively using the MDQ [5] and qualitatively using feedback comments. Decision quality will be analyzed following the Delphi consensus and at 14-day follow-up.

Possible problems in implementing this SWAT

There may be too little difference between some conditions to have a detectable impact. It is expected that impact will be seen on criteria where real trade-offs are unavoidable. Technical or usability issues may arise.

References

1. Brice A, Price A, Burls A. Creating a database of internet-based clinical trials to support a public-led research programme: A descriptive analysis. *Digital Health* 2015; 1: 1-13. (doi: 10.1177/2055207615617854)
2. Price A, Albarqouni L, Kirkpatrick J, et al. Patient and public involvement in the design of clinical trials: An overview of systematic reviews. *Journal of Evaluation in Clinical Practice* 2018; 1: 240-53. (doi: 10.1111/jep.12805)
3. Dowie J, Kjer Kalsoft M, Salkeld G, et al. Towards generic online multicriteria decision support in patient-centred health care. *Health Expectations* 2015; 18: 689-702. (doi:10.1111/hex.12111)
4. Kalsoft MK, Dowie J, Turner R, et al. Decisional equipoise is not decisional conflict: avoiding the false clarity bias in the evaluation of decision aids and Shared Decision Making processes. *F1000Research* 2015; 4. (doi: 10.7490/F1000RESEARCH.1110671.1)
5. Kalsoft M, Cunich M, Salkeld G, et al. Assessing decision quality in patient-centred care requires a preference-sensitive measure. *Journal of Health Services Research and Policy* 2014; 19: 110-7. (doi: 10.1177/1355819613511076)

Publications or presentations of this SWAT design

Examples of the implementation of this SWAT

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