



Title	A Pilot Study on the Use of Decision Theory and Value of Information Analysis as Part of the NHS Health Technology Assessment Programme
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Aim

To assess the potential for decision analysis and value of information analysis (DA-VOI) to contribute to the process of achieving the greatest return, in terms of outcomes, eg, health gain, from the resources available to the NHS Health Technology Assessment (HTA) Program.

Conclusions and results

Although none of the research topics identified by NCCHTA met all the criteria for inclusion as case studies in the pilot, it was possible to construct appropriate decision analytic models and conduct probabilistic sensitivity analysis for each topic. In each case, the 3 core tasks were completed within the time required by the NCCHTA research prioritization process. The brief case study reports described the decision problem, summarized the evidence base, and characterized decision uncertainty via cost-effectiveness acceptability curves. Implications for research in each area were presented at a general level, and for the design of future research, eg, in terms relevant patient groups and comparators, and whether experimental design was likely to be required. Feedback on the DA-VOI analysis and its presentation suggested that the explicit consideration of available evidence was useful in making priority decisions. Several issues must be considered when using DA-VOI analysis, particularly the quality of evidence used in the model and the feasibility of undertaking such analysis in the existing timelines. Feedback indicated that the background document should be adapted for a non-technical audience.

Recommendations

1. DA-VOI requires stakeholders to be clear about the nature of the decision problem
2. DA-VOI needs explicitness about which existing data should be used in the first part of the analysis and how data that exhibit particular weaknesses should be 'down-weighted'
3. There would be advantages to making the devel-

opment of the vignette and the use of DA-VOI an integrated process

4. There is a need to identify, and secure access to, relevant clinical experts early in the analysis
5. If some degree of implementation of DA-VOI takes place within the Program, careful evaluation and ongoing development is essential.

Methods

Please refer to the full monograph for details of the methods.

Further research/reviews required

1. Methods for efficient literature searching. This would focus most searching and review attention on those variables to which the model's results are most sensitive and with the highest EVPI
2. Methods of evidence synthesis (multiple parameter synthesis) to consider the evidence surrounding multiple comparators and networks of evidence
3. Ways in which the value of sample information can be used by the NHS HTA Program and other research funders to decide on the most efficient design of new evaluative research.