

Summary

Use of Network Meta-analysis to Inform Clinical Parameters in Economic Evaluations

The CADTH *Guidelines for the Economic Evaluation of Health Technologies: Canada* details best practices for conducting economic evaluations in Canada. In 2014, CADTH began the process of updating this document and identified a number of technical areas where additional information would assist in the update. CADTH then commissioned work from experts in the field to produce a series of technical reports. This brief summarizes one of these reports.

The report *Use of Network Meta-analysis to Inform Clinical Parameters in Economic Evaluations* describes how to use the results from a network meta-analysis (NMA) to inform parameters and to account for parameter uncertainty within an economic evaluation. Given that NMA is an evolving area of research, details on its applicability and use in economic evaluations are limited; therefore, this report was commissioned to provide some guidance on the topic.

Why network meta-analysis?

When comparing two health care interventions, it is common practice to apply pairwise meta-analysis methods to obtain pooled effectiveness estimates for use in an economic evaluation. However, for health care decision-making, it may be necessary to compare more than two interventions. NMA extends the standard pairwise meta-analysis framework to allow the simultaneous comparison of multiple interventions, even when no single study compares all of the interventions of interest.

What does the report cover?

The report describes how to incorporate NMAs within economic evaluations. Namely, how to:

- define the scope of the decision problem (the target population and interventions) and the associated evidence network (study designs to be included, defined outcomes) for the NMA
- fit an NMA model to the data from the studies in the network of intervention comparisons to estimate all intervention effects relative to a reference intervention (for example, standard care or placebo)
- estimate absolute effects from the NMA and baseline data
- evaluate the probabilistic decision model using absolute effects.

The report also presents:

- considerations for using estimates from published NMAs to inform clinical parameters in an economic evaluation
- considerations for using NMA to synthesize information on adverse events or where data are sparse
- a decision tool developed to inform the optimal approach to NMA for a given decision problem
- an overview of advanced and emerging topics related to NMA and its use in health technology assessment and economic evaluation
- case studies illustrating the application of standard and advanced NMA methodology to inform clinical parameters in economic evaluations.

For more information, please visit: [cadth.ca/economic-evaluation-guidelines-update](https://www.cadth.ca/economic-evaluation-guidelines-update)