

TitleGeneralisability in Economic Evaluation Studies in Healthcare: A Review
and Case StudiesAgencyNCCHTA, National Coordinating Centre for Health Technology Assessment
Mailpoint 728, Boldrewood, University of Southampton, Southampton
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Aim

To focus on generalizability in *economic evaluation* as applied to health services. The *context* which is the primary focus of this report is the *location* in which the study was undertaken and/or the *decision maker* for whom the study was undertaken.

Conclusions and results

Unit costs associated with particular resources are most frequently cited as generating variability in economic results between locations. No studies were identified which explicitly considered factors causing variability in the results of economic studies over time. Regression analysis has been advocated as a means of looking at variability in economic results across locations. The decision analytic model has been the main means by which cost-effectiveness has been adapted from trial to non-trial locations. The review failed to identify major literature on variability in cost effectiveness over time, although emerging literature using Bayesian decision theory may be of value. There was little use of the statistical approaches identified in the methods review to assess variability by location. The case study demonstrated the value of multilevel modeling (MLM). Where clustering exists by location, MLM facilitates correct estimates of the uncertainty in cost-effectiveness results. MLM also provides a means of estimating location-specific cost-effectiveness. Few studies were explicit about their target decision maker(s)/jurisdictions. The studies in the review generally made more effort to ensure that their cost inputs were specific to their target jurisdiction than their effectiveness parameters. Standard sensitivity analysis was the main way of dealing with uncertainty in the models. The modeling case study illustrated how effectiveness and cost data can be made location-specific. In particular, on the effectiveness side, the example showed the separation of location-specific baseline events, and pooled estimates of relative treatment effect which are assumed exchangeable across locations.

Recommendations

At the design stage of a study, selection of study sites should focus on those representative of the jurisdiction(s) for which economic data are required. There is value in collecting data on the characteristics of trial centers which could be used as covariates in a regression model. Resource use data (eg hospital days) should be reported separately from the unit costs of those resources. MLM should be considered for assessing the degree of clustering in cost and effectiveness data in trial locations. Reporting more information on the centers/countries in a study can help decision-makers to interpret the relevance of results. Given the focus on a decision, any analysis should be clear about the specification of the decision problem and the relevant decision-maker(s) and jurisdiction(s). It is important to distinguish parameter uncertainty from variability or heterogeneity, where the latter is concerned with how parameter estimates vary across 'contexts'.

Methods

Please see the full monograph for methods.

Further research/reviews required

The most appropriate basis to select centers into multicenter trials, and contenders for location-level covariates in multilevel models.

Written by Professor Mark Sculpher, Centre for Health Economics, University of York, UK