

Nice Guidelines For Economic Evaluation: Methodological Developments and Remaining Uncertainties

Mark Sculpher

Karl Claxton

John Brazier

Bengt Jönsson

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Economic evaluation for NICE – the Reference Case

Mark Sculpher

Centre for Health Economics

University of York

Background

- Technology Appraisal at NICE issues guidance on around 20 technologies per year
- Range of medical technologies selected
- Economic evaluation plays a major role in decision
 - Manufacturer submission
 - Independent technology assessment review
- Initial methods guidance published in 2001
- Focussed largely on economic evaluation methods
- Very general guidance – little prescriptive material
- 2002 House of Commons Select Committee on Health report recommended updated guidance by end-2003

Outline

- Guiding principles
- Reference case

Guiding principles

Objectives and constraints

- Objective of maximising some measure of health gain
- Budget constraint: NHS/PSS resources
 - Implies particular cost perspective
- Long-term time horizon
- Clear implications for defining the decision problem (relevant to UK practice)
- Other constraints difficult to operationalise
 - Fixed budget
 - Equity
 - ‘Political’ constraints

Guiding principles

Need for comparability

- Both within and between submissions
- Generic measure of health gain
 - Comparison within and between submissions
 - Quantifying opportunity costs

Guiding principles

Need for synthesis and modelling

- Inevitable need to draw evidence from number of sources
- Need for systematic methods to identify evidence on all parameters
- Large demand on evidence synthesis methods
- Need appropriate analytical framework – statistical or decision analytic model
 - Framework for synthesis
 - Characterise uncertainty

Guiding principles

Requirements for evidence

- Recognition of different types of data needed to estimate cost-effectiveness
- Evidence required to estimate parameters will differ
 - RCT evidence needed to estimate relative treatment effect
 - Not essential for natural history, cost and quality of life parameters
- Imperfections in evidence base inevitable
 - Imprecise estimates
 - Not on appropriate patients
- Need to use all available data, be explicit about limitations and modelling assumptions, and quantify additional uncertainty

The concept of the reference case

- Concept supported by Washington Panel in 1990s
- Range of uncertainties in (economic) evaluation methods – values and technical
- But need for consistency in approach for decision making
- Reference case defines the methods which should be used *in one particular analysis*
- Does not preclude other *additional* analyses
- When reference case not possible, submissions still encouraged, absence of reference case justified and additional uncertainty should be quantified

Summary of reference case requirements (1)

Element	Reference case
Defining the decision problem	Consistent with NICE's scope
Perspective on costs	NHS and PSS
Perspective on outcomes	All health effects on individuals
Type of study	Cost-effectiveness analysis

Summary of reference case requirements (2)

Element	Reference case
Synthesis of outcome evidence	Systematic review
Measure of health benefits	QALYs
Health state descriptions	Validated generic measure
Method of preference elicitation	Choice-based

Summary of reference case requirements (3)

Element	Reference case
Source of preference data	Sample of public
Discount rate	Annual rate of 3.5% on costs and health effects
Equity	QALY given the same weight for all recipients
Dealing with parameter uncertainty	Probabilistic methods

Two areas of controversy

- Probabilistic sensitivity analysis
- Measurement and valuation of health