

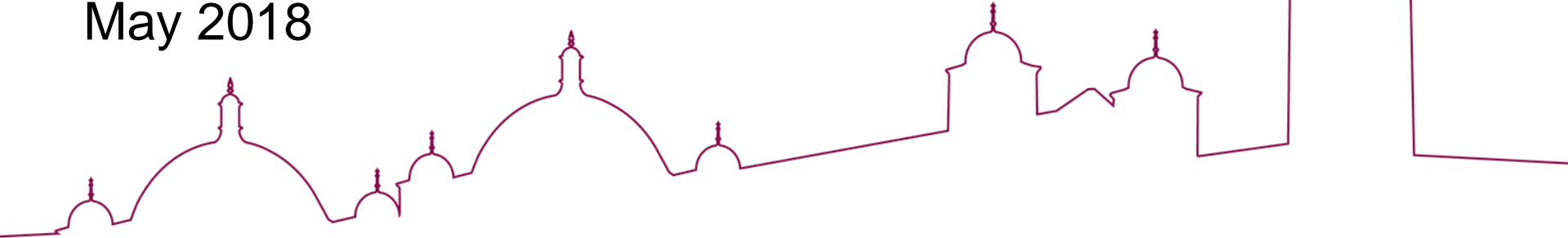
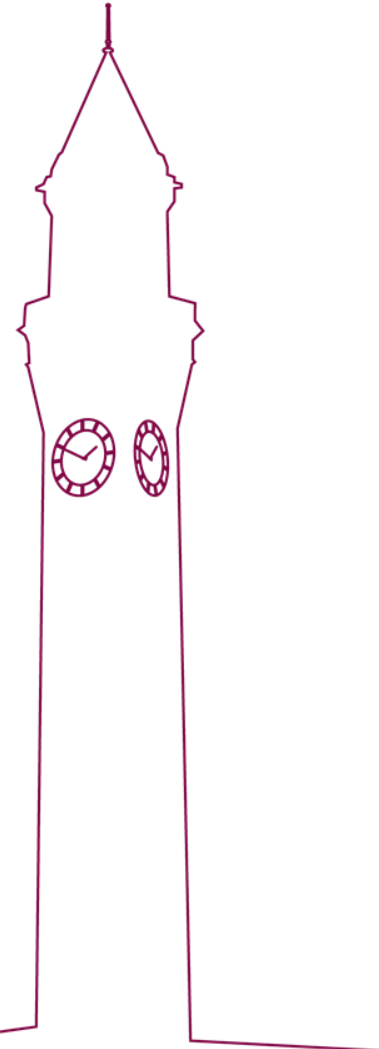


UNIVERSITY OF
BIRMINGHAM

COLLEGE OF
MEDICAL AND
DENTAL SCIENCES

ECUSTEC trial: economic evaluation

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What is economic evaluation?

- Comparative analysis of alternative courses of action in terms of both costs and benefits (consequences)
 - to promote the efficient use of healthcare resources
 - maximum total benefit is derived from the finite resources available

- Opportunity cost
 - the value of the benefits forgone by choosing to deploy a resource in one way rather than in its best alternative use



Incremental approach

- A typical economic evaluation seeks to answer the question:
 - ‘What is the difference in costs and the difference in benefits of option A compared to option B?’
 - ‘Is option A cost effective compared to option B?’



Incremental cost-effectiveness ratio (ICER)

Calculates the cost per extra unit of benefit (outcome)

$$\text{ICER} = \frac{\text{difference in costs}}{\text{difference in benefits}}$$

$$= \frac{\text{costs A} - \text{costs B (£)}}{\text{benefits A} - \text{benefits B}} = \frac{10,000 - 8,000}{1 - 0.5} = \frac{2,000}{0.5}$$

$$= \text{£4,000 per unit of benefit gained}$$



Costs (NHS and PSS)

- Treatment and trial follow-up period:
medicines, management, adverse effects, and treatment complications. Visits to health professionals and hospital admissions
 - CRF data collection forms at days 8, 30, 60 and weeks 26 and 52
- Long-term:
care relating to treatment and adverse events
 - Literature-based cost estimates



Outcomes

- Clinical severity score
- Quality-Adjusted Life Years (QALYs)
 - ‘years of life’ are adjusted to take account of ‘quality of life’
 - a measure of quality of life on a 0-1 scale is required
 - measurement in children is a challenge!



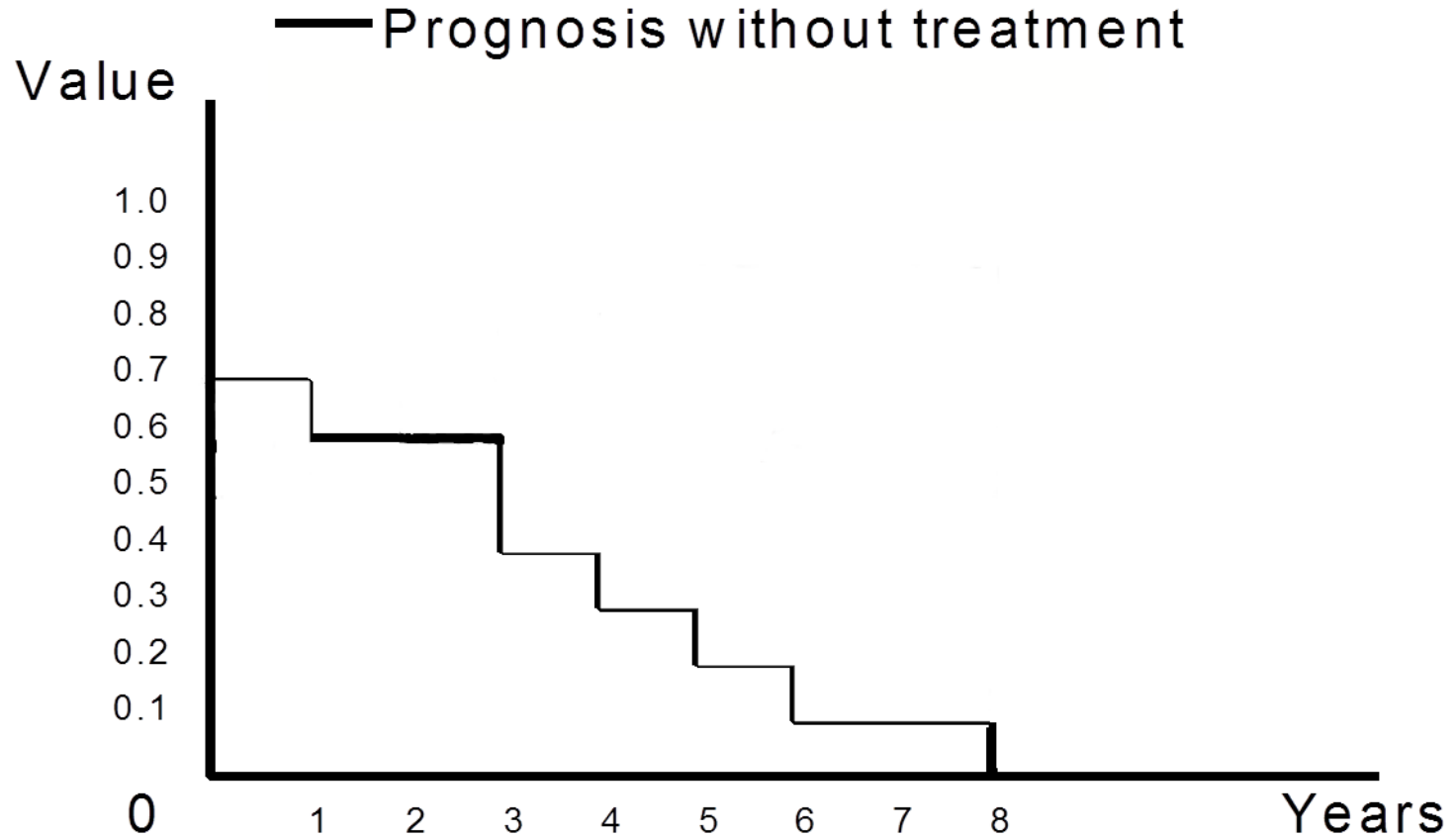
Quality of life data

Age (years)	PedsQL version	CHU9D version
<1	1-12 months	No form
1	13-24 months	No form
2-4	2-4 years	Under 5 years
5-7	5-7 years	Standard
8-12	8-12 years	Standard
13-18	13-18 years	Standard

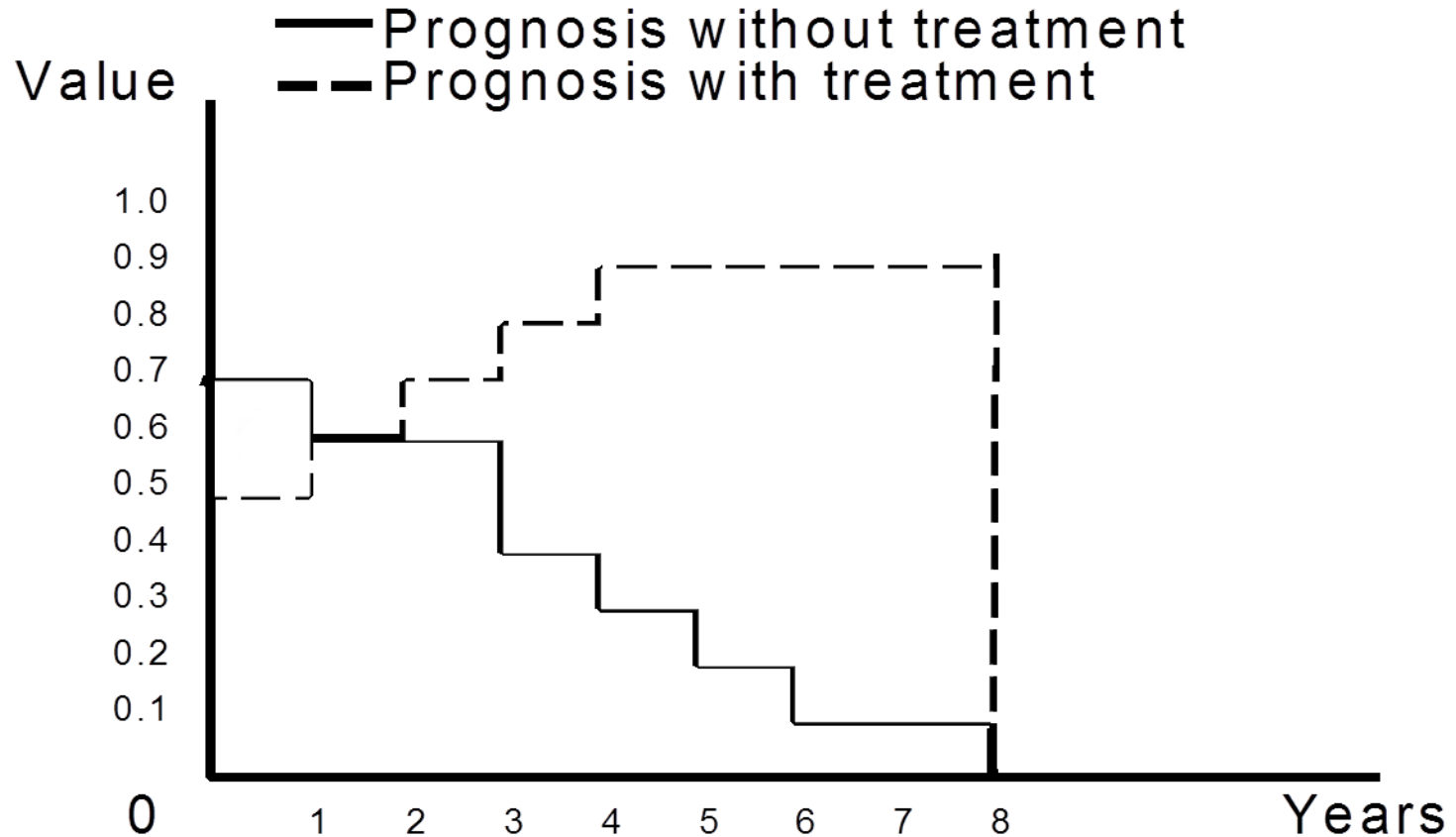
‘Map’ from CHU9D to PedsQL to estimate QoL in youngest children



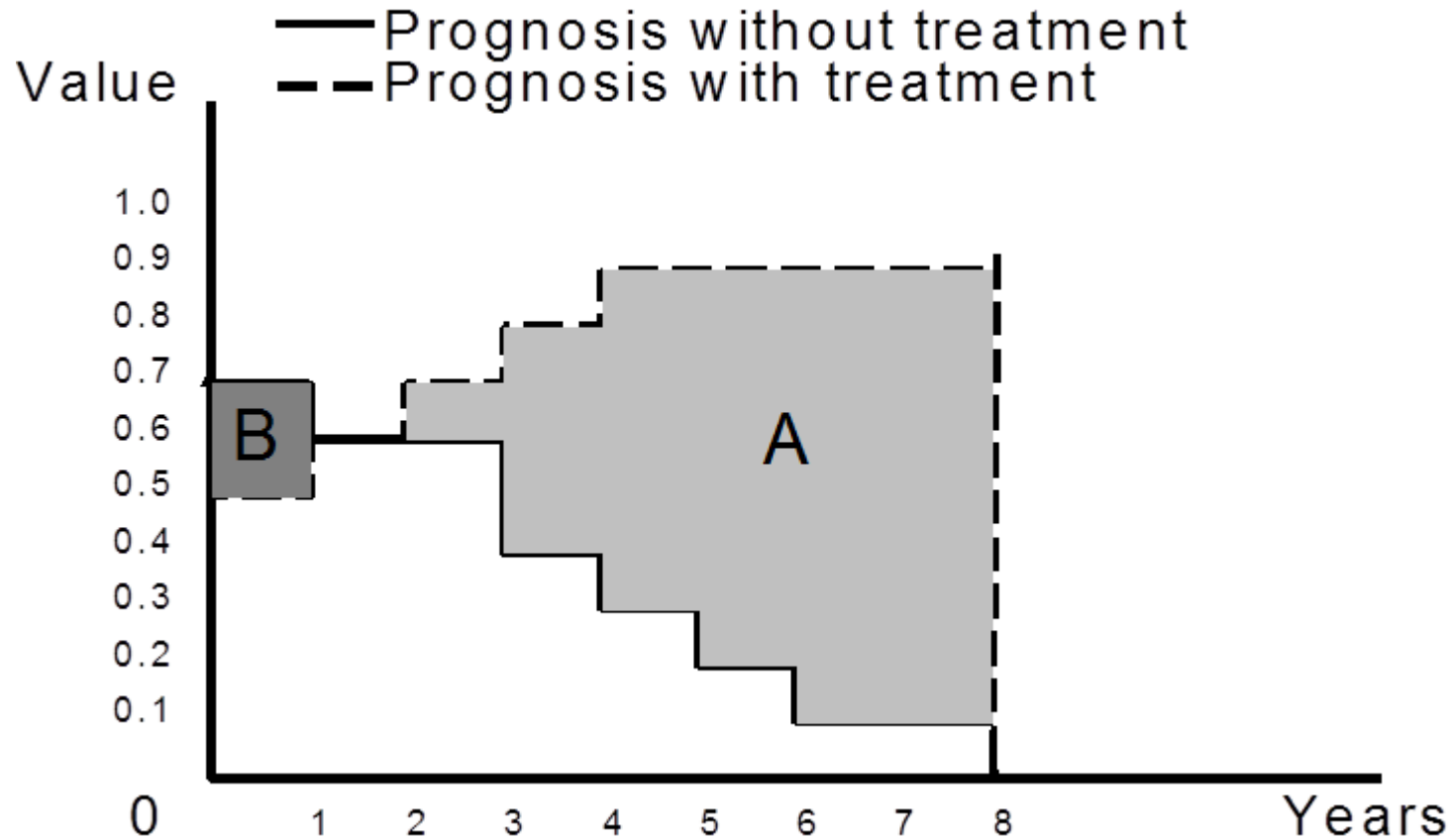
QALYs



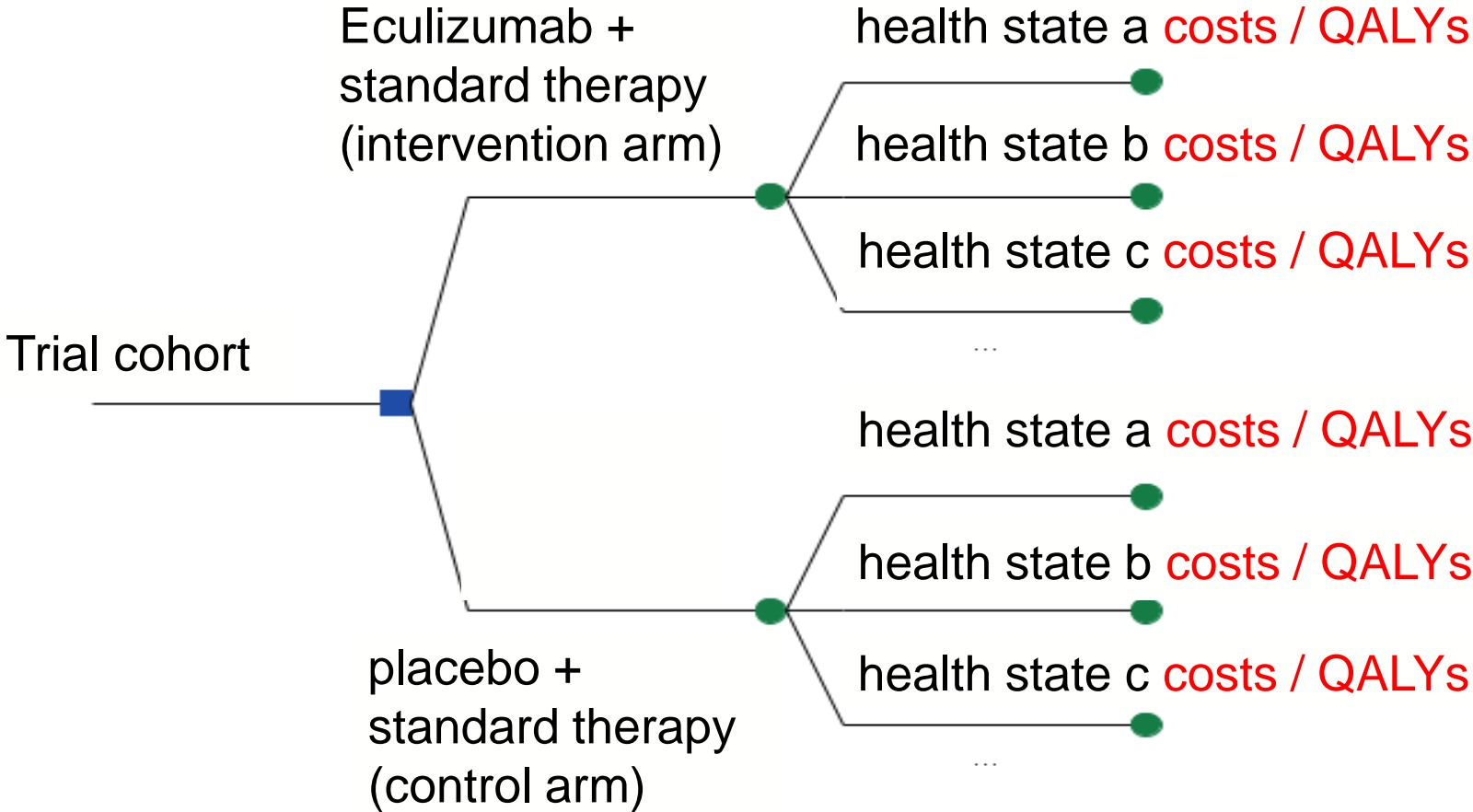
QALYs



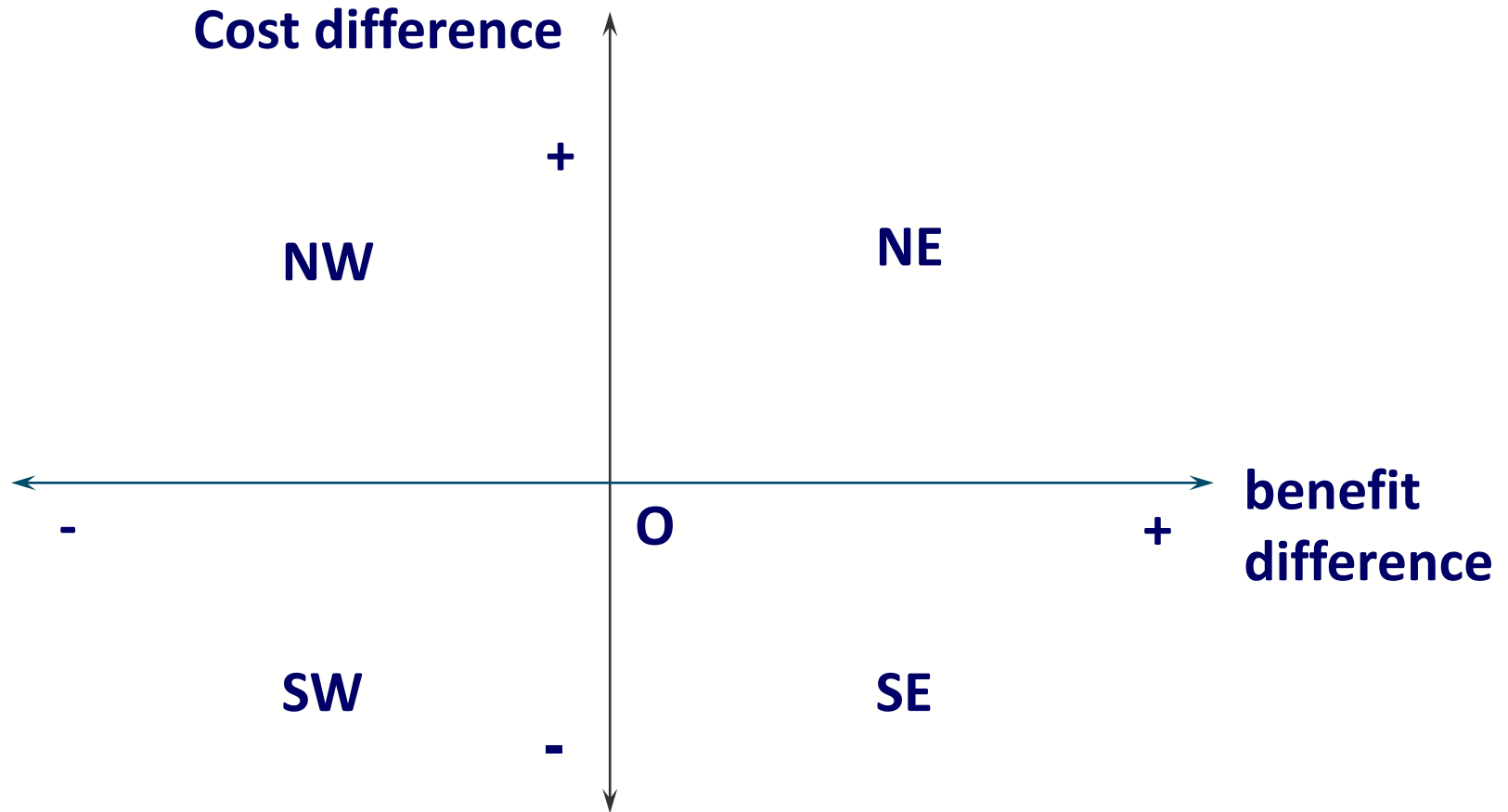
QALYs



Economic model - illustration



The cost-effectiveness plane



The cost-effectiveness plane

