Jonathan Karnon

Cost-effectiveness thresholds: explicit or implicit ?

adelaide.edu.au @jonkarnon seekLIGHT

Outline

- Empirical Australian cost-effectiveness thresholds
  - Supply-side
  - Demand-side
- Use of cost-effectiveness thresholds
  - Explicit or Implicit?

The Australian supply-side threshold

- Mortality-related QALY gains
  - Analysis of geographical differences in expenditure and mortality data
  - Estimate marginal expenditure effect on QAYLL:
    - 1.6% decrease in QAYLL for 1% increase in health expenditure
    - Per capita mortality-related QALY gain in 2011/12 = 0.0013

The Australian supply-side threshold

- Mortality-related QALY gains
  - Analysis of geographical differences in expenditure and mortality data
  - Estimate marginal expenditure effect on QAYLL:
    - 1.6% decrease in QAYLL for 1% increase in health expenditure
    - Per capita mortality-related QALY gain in 2011/12 = 0.0013
- Morbidity-related QALY gains
  - Analysis of longitudinal QoL data (HILDA)
  - Using demographic, social and economic covariates to isolate heath expenditure effects
    - Per capita morbidity-related QALY gain in 2011/12 = 0.0066
- Aggregate per capita QALY gain in 2011/12 = 0.0079

Cost-effectiveness thresholds

Supply-side

- Δ per capita health spending / Δ per capita QALYs
- $220 / 0.0079
- $28,033 per QALY (95% CI $20,758 to $37,667)

Cost-effectiveness thresholds

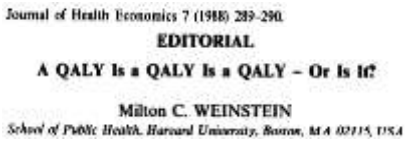
Supply-side

- Δ per capita health spending / per capita QALY gains
- $219.9 / 0.0079
- $28,033 per QALY (95% CI $20,758 to $37,667)

Demand-side

- Population-based WTP for a QALY: Aus$64,000 (Shiroiwa et al, 2010)

A QALY Is a QALY Is a QALY?


Journal of Health Economics 7 (1988) 289-290.
EDITORIAL
A QALY Is a QALY Is a QALY – Or Is It?
Milton C. WEINSTEIN
School of Public Health, Harvard University, Boston, MA 02115, USA

- Many factors may influence the value of a QALY
  - "confidence in evidence of effects,
  - comparator (e.g. unmet need),
  - total cost,
  - size of benefit and what it is (e.g. life saving),
  - condition, etc"

- Limited data on who is forgoing QALYs
  - People waiting for elective surgery? attending emergency departments? with chronic conditions? with risk factors?

➔ Subjective adjustment of a benchmark threshold

Thresholds in practice in Australia

- Public summary documents present ranges within which accepted ICERs sit
  - e.g. the accepted ICER is a value between $45,000 and $75,000 per QALY gained
  - Distribution of accepted ICERs, 2005 to 2009 (Mauskopf et al, 2013):

    <$45000: 71.5%
    $45000-$75000: 21.5%
    >$75000: 7%

Thresholds in practice

- Public summary documents present ranges within which accepted ICERs sit
  - e.g. the accepted ICER is a value between $45,000 and $75,000 per QALY gained
  - Distribution of accepted ICERs, 2005 to 2009 (Mauskopf et al, 2013):

    <$45000: 71.5%
    $45000-$75000: 21.5%
    >$75000: 7%

- PBAC are aware of the supply-side estimate of threshold
  - But they have not commented on its relevance
    - Are they using it?
    - Is the supply-side threshold not sufficiently robust?
    - Do they prefer demand-side thresholds?

Implicit thresholds

- In Australia
  - PBAC know what thresholds have been accepted previously
  - Companies know what thresholds have been accepted previously for their drugs
    - Industry requested confidentiality, not the government
  - The public/media do not know what thresholds have been accepted previously

Implicit thresholds

- In Australia
  - PBAC know what thresholds have been accepted previously
  - Companies know what thresholds have been accepted previously for their drugs
    - Industry requested confidentiality, not the government
  - The public/media do not know what thresholds have been accepted previously

- Increased decision-maker flexibility
  - To negotiate with individual companies
    - including non-disclosed pricing agreements
  - No constraints
    - e.g. can move from value- to budget-based pricing, e.g. hepatitis C

Explicit thresholds

- Encourages investigation and debate re:threshold
  - More interest in England? e.g. front page of the Guardian
  - NICE responded ("drug companies would not drop prices")

- Clearer for public to understand
  - How their money is being spent
  - Public more accepting of negative decisions?

- More consistency in decision making?
  - More certainty for companies?
  - Decisions are more contestable


Patients suffer when NHS buys expensive new drugs, says report

The NHS price threshold for drugs that give a year of good-quality life should be lowered to stop local budgets missing out, argue experts at the University of York

Apples & Purple mangosteens & Meat pies

- England
  - NICE make decisions about what local commissioners must fund
    - NICE does not have a budget
- Thailand
  - HITAP make recommendations to independent decision making bodies
    - HITAP does not have a budget
- Australia
  - PBAC works closely with the Department of Health
    - The DoH has a budget

For discussion

- Healthcare payers
  - prefer implicit threshold? Stronger negotiating position
- Industry
  - prefers explicit threshold? Stronger negotiating position
- Academics
  - prefers explicit threshold? As basis for promoting empirical threshold
- The public
  - ? Depends on trust in decision-makers