Cost-effectiveness thresholds: explicit or implicit?

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

• Morbidity-related QALY gains
  – Analysis of longitudinal QoL data (HILDA)
  – Using demographic, social and economic covariates to isolate health 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
• $\Delta$ per capita health spending / $\Delta$ per capita QALYs
• $220 / 0.0079$
• $28,033$ 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?

• 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
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

@jonkarnon