Reflections on Value Based Pricing / Assessment

Professor Adrian Towse
Director, Office of Health Economics
AES 18th June 2015
Granada
Agenda

• VBP context
• Regulating pharmaceuticals
  • VBP versus VBA, PBRSA’s, MIPS
• What do we value?
  • Eliciting social preferences
• Aggregating elements of value
• Threshold and decision making in the NHS
• Reforming the Cancer Drugs Fund
• Conclusions
Value Based Pricing (VBP) Context

VBP was initially proposed in an Office of Fair Trading Report on the Pharmaceutical Price Regulation Scheme (PPRS)

VBP initially proposed by the Government was intended to:

1. Introduce a broader definition of value
2. Replace NICE appraisal with an algorithm
3. Impose / negotiate prices with the industry
4. End the 5 year PPRS negotiated agreements
5. Get rid of “no” or “restricted/optimised” decisions from NICE (and so get rid of anti-NICE, anti-DH Daily Mail headlines)
6. Enable the Cancer Drugs Fund to be got rid of
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• Health systems should set price (WTP) for health gain reflecting insurees preferences

• Optimal global R&D comes from prices reflecting value at local CE thresholds for patent duration

• Price setting by governments/HTA bodies can lead to:
  • commercial uncertainty
  • opportunistic behaviour
Impact of patient access schemes

If all positive decisions since 2009 where a PAS was implemented were assumed to be a “not recommended” decision in the absence of a PAS (bar labelled “without PAS”) the share of not recommended decisions increases to 47%

Source: OHE analysis from NICE website
Need for flexible pricing, multi-indication pricing and more Performance-based risk sharing agreements (outcomes-based Patient Access Schemes)

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What do we value?

• A lot of variation in what is valued by payers / HTA
  • Core is (i) health gain (life extending, improved health status) (ii) reducing system cost
  • How far beyond this?
• Is this decided by:
  1. The (extra-welfarist) decision maker
  2. The (welfarist) search for social / individual preferences
  3. Or 1. informed by 2.?
Eliciting social preferences: End of life findings highlight the challenges

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EEPRU work – approach and findings (i)

- Discrete Choice Experiment (DCE) with 3669 respondents
- Chose whether NHS should treat patient group A or B, who differed in terms of four attributes: life expectancy without treatment; HRQOL without treatment; survival gain from treatment; and HRQOL gain from treatment.
- These attributes were used to explore Therapeutic Improvement (TI), derive Burden of Illness (BOI), QALY gain and End of Life (EOL).
- Respondents preferred to treat patients with larger QALY gains, but at a diminishing rate meaning there was no support for TI
- Respondents preferred to treat patients with a shorter life expectancy (EOL)
EEPRU work – approach and findings (ii)

- Results suggested some support for BOI. Excluding respondents “misunderstanding” the DCE task (remaining sample 2247) had positive, significant and robust BOI coefficients.

- Using the marginal rate of substitution to estimate weights indicated that 1 unit of BOI is equivalent to 0.04 QALYs gained, and EOL is equivalent to 3.331 QALYs gained.

- Robust and consistent support for EOL in general (but this conceptually overlaps with BOI and the two should not be used together).

- Overall the results indicate that a QALY is not a QALY and provide a basis for determining QALY weights.
Absolute and Proportional QALY Shortfall Definitions

**Absolute QALY shortfall** is total potential health going forwards (Areas A+B+C+D) minus current health prospects (Area D), i.e. Areas A+B+C.

**Proportional QALY shortfall** is the ratio of health lost to total potential health going forwards, i.e. Areas A+B+C as a proportion of Areas A+B+C+D.

**Fair Innings** (Proportional QALY shortfall from birth) is not shown in Figure 1.
Rationale

Absolute shortfall - Gavin Roberts

“The rationale behind this approach is simply that society cares about the absolute loss of quality of life and duration of illnesses. That is, larger losses of quality of life are more important than smaller losses. Longer durations of disease are more important than shorter durations of disease. Diseases which cause very premature death are more important than those which cause less premature death.”


“The trouble with the [absolute shortfall] approach may be that substantial differences in health prospects may exist not only because of different illnesses, but also because of age differences. Hence, unequal health prospects may not always be considered unfair and inequitable.”
Preferences and Value based pricing / assessment: where have we got to?

- EEPRU study showed incremental innovation had a higher value than breakthrough, so DH dropped it.
- Operational model of EEPRU-based severity weights and DH societal value given to NICE in 2012 with DH instruction to have positive and negative effects.
- 2013 PPRS includes commitment to keep current NICE thresholds in place for 5 years (2013-18).
- NICE consults in early 2013 on “severity” weight using proportional QALY shortfall and on “social impact” weight using absolute QALY shortfall with £20K - £50K threshold range. Only positive effects. Will replace End of Life (EoL).
- October 2013 NICE announces no mandate for change. EoL will stay. NICE will discuss with DH.
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A reordering of process?

Criteria: broader definition of value (risks, benefits)

Safety  Efficacy, effectiveness  Value for money (CE)  Affordability (BIA)  Other factors of value to D-M (ethical issues, social values, feasibility of implementation, unmet needs, innovation value, legal issues, ...)

Overall D-M Framework: Opportunity costs (value for money)

Source: Ron Goeree, Director PATH Research Institute, Professor, McMaster University
Different types of judgement

**Scientific judgment** is usually about an effect (positive or negative), its size, the ways in which it can be achieved, for whom, for how long, ...........

**Value judgments** tend to be in a different territory but they might be about, for example, how worthwhile a technology is, how defensible the tough bits of the decision are, how tolerant of uncertainty the committee ought to be, ...interpersonal comparisons ... whether the [outcome measure] was a good tracker of the relative health benefits of the interventions that were compared.

Aggregating elements of value

- Weighting multiple criteria relevant to the decision (MCDA):
  - A pure deliberative process does not use any formal structure and so is a “black box” to outsiders and potentially to itself over time (may lead to a lack of consistency and a lack of clear signals as to what matters)
  - A pure algorithmic approach does not need a Committee
  - Is there something workable (theoretically robust and practical) in between?
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The cost-effectiveness threshold (i)

Figure 5. Predicted probability of NICE rejections at different ICER values for Models 1-5, holding all other variables at mean levels.

Source: Dakin et al, OHE Research Paper, November 2013
The cost-effectiveness threshold (ii)

Methods for the estimation of the National Institute for Health and Care Excellence cost-effectiveness threshold

Karl Claxton, Steve Martin, Marta Soares, Nigel Rice, Eldon Spackman, Sebastian Hinde, Nancy Devlin, Peter C Smith and Mark Sculpher

EDITORIAL

NICE’s Cost-Effectiveness Range: Should it be Lowered?

J. P. Raftery
The cost-effectiveness threshold (iii)

• The DH is “unofficially” using £15K as its version of the CHERP81 £13K figure

• The PPRS guarantees NICE use the existing threshold of £20K-£30K plus up to £50K for EoL

• We are struggling to understand what an appropriate threshold might be:
  • OHE work in Scotland and Wales
  • Use of “local” PBMA and MCDA approaches
  • Better data measurement is key (PROMS?)
Reality of marginal service decisions – costs per QALY ranges

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• Access to cancer drugs not approved by NICE.

• Set up in 2010-11 with a budget of £50 million, increased to £200 million for next three years, and to £280m for 2014-5 and 2015-6

• Underspent for first three years, last year (2014-5) overspent

• NHS England has introduced rationing criteria for the CDF
Trends in decision for cancer medicines pre and post establishment of cancer drugs fund (Q4 2010- Q3 2013)

Source: OHE analysis from NICE website
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Conclusions

1. VBA is a better way forward than VBP. Renamed VBA in 2012 PPRS agreement. So VBA is alive! (... just)

2. Work on the broader definition of value needs to continue. It requires better understanding of the preferences of the public and of patients. We need to invest in preference elicitation

3. Price flexibility by indication / subgroup and outcomes-based CED/ PBRSA schemes are important for getting dynamic and static efficiency from the use of drugs. Reform of the CDF offers a way forward to try more of these approaches

4. A deliberative process is necessary in value assessment. Introducing structure to this process (MCDA) is a challenge

5. We need to thinking about decision making in the other 90% of NHS spending. We might have a better basis for understanding the relevant cost-effectiveness threshold and improve NHS efficiency.
References


- Claxton et al. Methods for the estimation of the National Institute for Health and Care Excellence cost-effectiveness threshold

- Dakin et al, OHE Research Paper, November 2013


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