

Value based pricing for the NHS

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Some key questions

- What is value in the NHS?
- What will be the role of NICE appraisal?
- How can estimates of the 'basic threshold' be established?
- How can other aspects of social value be reflected in VBPs?
- Should a premium for innovation be included?
- When should VBPs be renegotiated?
- Will manufacturers agree lower prices for the UK?
- Will drugs with VBPs be used in the NHS?
- Different prices for the same drug with different indications or sub groups?

Good things

- Leaves sufficient room to do something sensible following consultation
- Centrality of NICE appraisal as the foundation of VBP
- Importance of an empirically based assessment of the 'basic' threshold

A scientific question of fact

- Previously (Martin et al 2008, 2009)
 - Variations in expenditure and outcomes within programmes
 - Reflect what actually happens in the NHS by PBC

	Cancer	Circulation	Respiratory	Gastro-int
04/05 per LY	£13,137	£7,979		
05/06 per LY	£13,931	£8,426	£7,397	£18,999

- Need estimate the overall threshold:
 - How changes in overall expenditure gets allocated across all the programmes
 - How changes in mortality might translate into QALYs gained
 - More (all) programmes (types of QALYs displaced)
 - How uncertain is any overall estimate
 - How it changes with scale of expenditure change
 - How it changes over time

'Basic' Threshold

ΔB , variation in overall expenditure

Expenditure equations, programme expenditure elasticities ($\% \Delta E / \% \Delta B$)

ΔE Programme 1

ICD.. ICD.. ICD..

ΔE Programme 2

ICD.. ICD.. ICD..

ΔE Programme ..

ICD.. ICD.. ICD..

ΔE Programme 23

ICD.. ICD.. ICD..

Outcome equations, outcome elasticities ($\% \Delta M / \% \Delta E$)

Residual

(no mortality effects)

Δ Mortality

ICD.. ICD.. ICD..

Δ Mortality

ICD.. ICD.. ICD..

Δ Mortality

ICD.. ICD.. ICD..

?

Prior or scenarios

Life years gained

QALYs gained
QALY/LYs loss

Life years gained

QALYs gained
QALY/LYs loss

Life years gained

QALYs gained
QALY/LYs loss

k

Social value of different types of health?

- Value of health gained (*and health forgone*)
 - Burden and severity
 - Δh lost as consequence of the condition with current treatment
 - Therapeutic improvement
 - Scale of Δh (some threshold below which it is less valuable)
 - Wider social benefits ($-\Delta c_c$)
 - Cost of care born by patients and carers
 - External consumption effects
 - End of life
- Need to reflect the type and value of health and Δc_c forgone

Social value of health forgone (a single threshold)

- Unweighted QALYs $k = \frac{1}{\sum_{i=1}^I q_i}$, $q_i = \text{QALYs of type } i \text{ per NHS } \pounds$
- Weighted QALYs $k^* = \frac{1}{\sum_{i=1}^I w_i \cdot q_i}$, $w_i = \text{weight for QALYs of type } i$

- Weighted QALYs plus WSBs $k^{**} = \frac{1}{\sum_{i=1}^I w_i \cdot q_i - \sum_{i=1}^I c_i \cdot q_i / v}$,
 $c_i = \text{WSC associated with QALYs of type } i$

- Some implications

$k > k^*$ if some $w_i > 1$ when $q_i > 0$ $k^* > k^{**}$ if some $c_i < 0$ when $q_i > 0$

$k^* \neq w_j \cdot k$, $w_j = \text{weight associated with QALYs gained from technology } j$

Other aspects of social value?

- Innovation
 - Already premium for greater benefits
 - Anticipating future benefits
 - Who should assess?
 - When should NHS pay?
 - Dynamic incentives
 - Little impact but signal anyway (be a good citizen)
 - Incentives for location
 - Product premium not excludable by location!
 - Other policies more effective

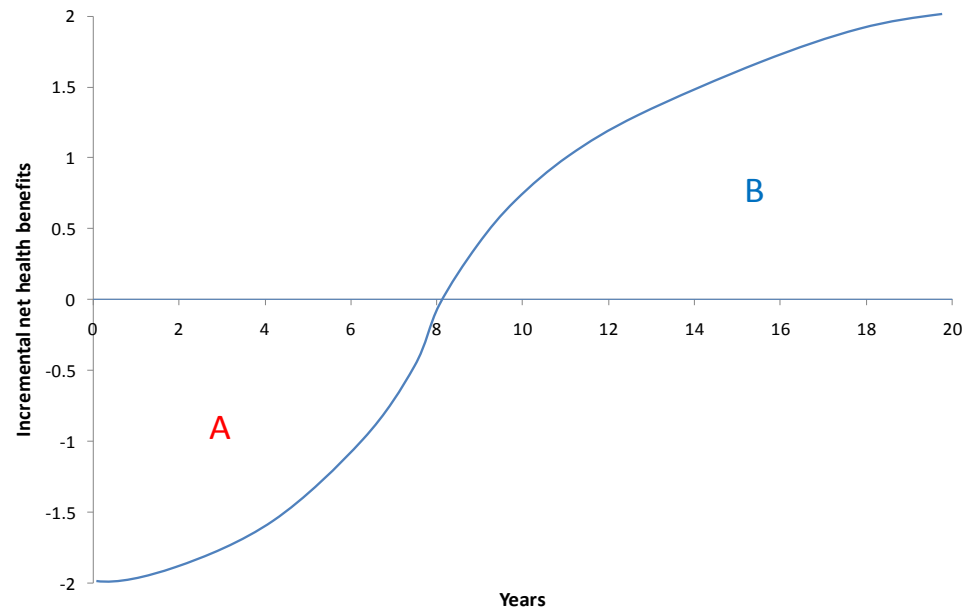
Other aspects of social value?

- Link to evidence and irrecoverable costs
 - Reappraisal and renegotiation triggers
 - Lower VBP at launch
 - Cant do the research once in NHS use
 - Irrecoverable costs (NHS and patient level)
 - Must retain OIR as an option

	NHB (A)	NHB (B)	Max NHB
1	4	1	4
2	10	10	10
3	16	22	22
Average	10	11	12

Value of access

Value of evidence



Lack of critical detail

- Vehicle for price negotiation
 - Separate list price (L) from transaction price (T)
 - VB rebate of $L - T^*$ paid through PPRS
- Transparent rules (menu of T_i, Q_i)
 - Single price (mirror other markets)
 - Incentive for uptake (some benefits for the NHS)
 - Avoid threats of hold up or all or nothing
 - Opportunity costs in some circumstances
- Combined with national volume agreements
 - $L - T$ for T^*, Q^* and $L - C$ for $>Q^*$
 - $C = MC =$ equivalent generic price

Lack of critical detail

- Either mandatory guidance or incentives
 - Limited uptake of new VBP drugs
- Incentives for local prescribing
 - Prescribers pay L-d, receive L or L-C from DH
 - Manufacturers receive L-d, pay L-T* to DH
 - If no agreement L-d falls on local budget
- Combined with volume agreements
 - Manufacturers
 - National agreements L-C for $>Q^*$
 - Local prescribers
 - Estimate local Q^* , only receive L up to local Q^*

Prospects?

- Consultation document
 - Leaves sufficient room to do something sensible (or silly) following consultation
 - Centrality of NICE appraisal as the foundation for VBP
 - Importance of an empirical assessment of the threshold
- A pause for thought
 - Other aspects of value are ultimately zero sum
 - Little dynamic benefit (UK=3%)
- Maybe keep it simple?
 - Evolution not revolution
 -‘with no clear plan of social reconstruction’
 - National rebate mechanism along side NICE guidance
 - Avoid the transaction costs of patient access schemes
 - Share responsibility in more constrained circumstances