Age Weighting and the QALY

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NICE, age discrimination, and life living treatments
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Outline

• The NHS and resource allocation
• What are the implications for health measurement?
• Why the QALY?
• The QALY and age
Starting points and questions posed

- Health care systems with fixed budgets need to make resource allocation decisions
- Population health gain will be a key objective
- Any new (more expensive) technology will impose opportunity costs
- What is the appropriate analytical framework to inform decisions regarding the value of a new technology?
- What metric for health should be employed?
- How should other factors (e.g. interpersonal comparisons of health gain) be reflected in decisions and how?
Cost-effectiveness at NICE

What should the health metric look like?

• Need to be generic
  – Decisions across diseases and clinical specialties
  – Need to be able to compare health gain with health opportunity costs

• Unclear role for disease-specific measures of health
  – Unless ring-fenced budgets
  – No effects of technologies outside the disease of interest

• Needs to combine key dimensions of health
  – Length of life
  – Health-related quality of life
Why the QALY as a generic measure of individual health?

• Some empirical work to suggest QALYs imperfectly reflect individual preferences
• Little empirical work in the context of HTA informing real decisions
• Alternative measures developed but rarely applied (e.g. healthy-year equivalent)
• QALY legitimate to inform decisions
  – Widely used in empirical studies
  – Is (or should be) transparent
  – Strengths and weaknesses understood
  – Experience in alternative formal measures limited
  – Further research essential
Dealing with heterogeneity in cost-effectiveness by age

• Reflecting heterogeneity in cost-effectiveness is essential to inform decisions

• Cost-effectiveness may systematically vary by age
  – Treatment efficacy
  – Underlying risk
  – Prognosis
  – Costs

• NICE’s decisions about individual technologies rarely if ever limit their recommendations by age
Example: Hip replacement

Are QALYs more generally ageist?

• More general argument QALY-based resource allocation discriminates against those with short life expectancy (elderly?)
• General acceptance that better quality of life is better than worse, and longer survival duration is better than shorter
• All kinds of factors that explain variation in life expectancy (not just age)
• Would seem perverse to ignore variation in survival duration as a dimension of health
• May want to give extra weight to those with particularly short life expectancy (matter of interpersonal comparison)
DALYs and ‘efficiency-based’ age weights

• DALYs developed by WHO as a metric for disease burden
• Health weighted more highly in middle years
• WHO rejected notion of weights reflecting productivity (human capital)
• Originators appeal to social roles changing over time
• Efficiency or equity?
• Limited use in developed countries
Interpersonal comparisons of health gain

NICE Reference Case
“A QALY is a QALY is a QALY”

- Severity of baseline prognosis
- Lifetime health experience (age)
- Non health-related disadvantage
- End of life
- Degree of ‘blame’

Those that gain health
Generally known

Those that lose health
Generally unknown
Age and ‘fair innings’

• Predicated on an equity objective of equalising lifetime health experience
• At higher ages individuals are more likely to have accumulated a fair innings, but not purely a function of age
• Can incorporate other social characteristics (e.g. social class) and ‘baseline severity’
• Hence down-weight health gain in those who have accumulated more lifetime health
• No strong case for age weighting *per se*?
Fair innings equity weights: age and social class

Analysis versus deliberation

The analytic approach

• Concept of an ‘equity weighted’ QALY or a measure of the social value of health
• Literature exists
  – Methods of elicitation
  – Surveys of public preferences
  – Methods to augment/replace QALYs
• Limited use in applied studies
• What characteristics of individuals should be taken into account and who should select these?
• How should these characteristics be weighted/valued and by whom?
• Concerns about empirical ethics
Inter-personal comparison of health

The deliberative approach approach

• Unweighted QALY gains in analysis do not mean these remain unweighted in decision making

• Range of factors which could be taken into account other than ICER versus
  – Inadequacy of QALY
  – Characteristics of gainers and losers
  – Innovative nature of the product
  – Sufficiency of evidence

• Importance of decision making body’s social legitimacy
What does ‘taking into account’ in decision making mean?

The gain in QALYs does not reflect all the drug’s benefits

Extra weight is put on the health gain because of the characteristics of the recipients

The innovative nature of the product gives it extra value

On average, QALYs (from displaced services) are an accurate representation of opportunity cost

The characteristics of the recipients given health gain more important than the characteristics of those who, on average, lose health

It is reasonable for population health to fall today in the anticipation of future health gain
NICE’s ‘end of life’ guidelines
Details of guidelines at end of life

• In contexts where benefits are not adequately captured in Reference Case and ICER>£30,000

• Specific (key) criteria:
  – Life expectancy less than 24 months
  – Good evidence that treatment extends life by at least 3 months

• Further analysis:
  – Is the treatment cost-effective when terminal stage of disease valued as good health?
  – What additional weight needs to be given to the QALY gained to make it cost-effective?
Deliberation informed by analysis

- Threshold analysis
- Which utilities?
- Which QALY for equity weights?
- What opportunity cost?