Appendix C:

Access, equity and cost-effectiveness, and the trade-offs between them

Pre-Session Task

- Attitudinal survey

- We have included this part of the survey as a warm up. We know that people find it easier to focus on understanding the elements involved in the decision if they have done some ground work.

Background

- Access to health care was a founding principle of NHS
- Quickly clear that access to services was not equal
- Range of factors determine if/how people enter health care system and how they are treated if they do enter the system
  - Individual
  - Community
  - Health care system

Background 2

- Access still a high priority of NHS
- Cost-effectiveness also important to avoid waste
- Equity also important
- Priority setting at all levels of NHS need to take these into account
- Sometimes conflict

Group Task

- What do you understand by:
  - Need?
  - Access?
  - Equity?
  - Cost-effectiveness?

Definition of Need

- “need” indicating ill health so that the more ill somebody is, the more they are said to be in need
- the 'principle of equal consideration of interests', where one’s health needs are given equal consideration to someone with a similar health problem.

Definition of Access

- From public health - understanding of the concept of “access” is a mismatch between the provision of health care and the need for it. The “inverse care law” (Tudor Hart, 1970)

Measurement by

1. service provision
2. consumer costs such as travel time/distance/cost and waiting times
3. using utilisation indicators controlling for need (e.g. number of CABGs relative to CHD prevalence)

Definition of Equity

- Public health sees equity as a distribution of health across the population.
- Socio-economically deprived have worse mortality and morbidity experiences than those more affluent.
- Interventions that reduce health inequality between such groups are seen to promote equity.

Definition of Cost-effectiveness

- A cost-effective intervention is one that brings about the most benefit, given costs (or, equivalently, produces a given benefit at least cost).
- Value for money and efficiency are also often used as near equivalent terms.

Trade-offs between access, equity, and cost-effectiveness

- These are all priority areas – so why are there trade-offs?
- Often two or more agendas in competition
- Efficiency or improvements in public health
- Cost-effectiveness or more local services

For example…

Trade-offs between access, equity, and cost-effectiveness

- How can this happen?
- Tertiary service in Neonatal ICU
- Aim – improve outcomes for all babies
- Maximum cost-effectiveness

But…

- Leaves rural and small town communities vulnerable and dependent on independent factor

The retrieval service

- Which results in an inequitable service for babies born outside cities with no direct access to teaching hospitals

Group Task:
How should we trade off?

- Our recent study used discrete choice experiments which allow respondents to choose between two programmes.

Example of choices

	Programme A	**OR**	**Programme B**
Waiting time for treatment	6 months		1 month
Distance travelled to receive treatment	30 miles		5 miles
Total health benefit from treatment	30 QALYs		40 QALYs
Distribution of health care benefits	*For best off quintile:* 5% *For worst off quintile: 35*%		*For best off quintile:* 10% *For worst off quintile: 3*0%

Results from our SDO study

- These decision aids are used to assist the process by evaluating explicitly all the relevant information when making 'real-world' treatment choices
- We found that in general respondents prefer:
- health care programmes which give more health benefits (e.g. for QALYs)
- share the health benefit to target the worst off
- lower waiting times
- shorter distance travelled to hospital
- All statistically significant – all taken into account in making the choice.

Results 2

- Our analysis showed:
- health programmes targeting the worst off are valued 2.41 times more highly than a health programme which achieves a one QALY improvement in health benefits
- One QALY improvement in health is valued 0.68 times less highly than 1 month reduction in waiting time
- one QALY improvement in health benefits is valued approximately 5.84 times more highly than a 1 mile reduction in distance travelled to hospital.

Group Task:
How do we trade off?

- We used the results from the DCE questionnaire together with data from ‘real world’ examples of how trade-offs are made.
- They are specific to cardiovascular services and interventions to improve health.

How should we trade off?: Smoking Cessation Services

- NHS specialist smoking cessation services set up in 1999
- Group or individual support from trained advisors
- Drug treatment (nicotine replacement and/or bupropion)
- Services initially offered in most deprived areas

Group Task

- Should greater priority be given to establishing smoking cessation clinics be offered in more deprived areas?
- What would such a policy mean in terms of access, equity and cost-effectiveness?

Key assumptions

- All treated with group or individual support and NRT
- Costs for drugs and support the same in all areas
- Cost of NRT related to adherence
- Long term quit rates proportional to quit rates at 4 weeks
- 23% of those quitting at 4 weeks will be lifetime quitters

Group task 2

- OPTION A: provide more clinics in more deprived areas
- OPTION B: provide similar proportions of clinics in deprived and affluent areas

- Which option will be more expensive?
- Which option will be more effective in terms of number of quitters?

- Costs greater among higher social groups because of higher adherence
  - They keep taking the tablets/using the patches
- BUT effectiveness greater among higher social groups because of higher adherence
  - They keep taking the tablets/using the patches

- Expected quit rates: 14.6% versus 9.3% at 4 weeks
- Costs: £102 versus £90
- Average benefits: 0.204 QALYs versus 0.130 QALYs

What is a QALY?

- The QALY approach combines the value of quality of life with length of life into a single number.
- Each year of life is assigned a value between 0 (for dead) and 1 (for full health)
- The total health benefit is calculated as the QALY benefit for each patient multiplied by the number of people in the population who benefit
- One QALY equals one year of life in full health or 2 years of life in 0.5 health

Cost per QALY

- High socio-economic group = £503 /QALY
- Low socio-economic group = £692 /QALY
- Should we choose:
  - OPTION A: better access for lower socio-economic groups
  - OPTION B: equal access for low and high socio-economic groups

Average cost per QALY of £20,000

- Net benefit of treating someone in the high socio-economic group = £3970 versus £2525 for the lower socio-economic group

- Value of equity gain from choosing to treat someone from lower socio-economic group must be at least £1445

The numbers

- The costs per QALY were calculated by using the guidance from NICE. They base their decisions on a number of factors.
- The lower threshold £20,000 or below would be expected to be funded
- The upper figure of £30,000 requires a high quality of effect with strong evidence of special circumstances

(Guide to the Methods of Technology Appraisal April 2004 http//www.nice.org.uk)

What does this £1445 represent?

- If you are just concerned about reducing smoking rates in the population, and it is easier to persuade higher social classes to stop (even though they already have better health anyway) then you wouldn't be willing to pay any extra.
- However, if you are not indifferent to who stops smoking then are you willing to pay £1445 more to help a person from a lower socio-economic group to try to stop smoking?

How should we trade?

- Which smoking cessation programme should be chosen?

How should we trade off? Centralisation of vascular services

- Why – sub-specialisation and mixed outcomes for patients
- Patients prefer more local provision but
- There is some evidence to suggest that this is cost effective.
- The example from Trent. ‘Hub and spoke’ model to avoid additional clinic travel for patients.

The implied trade-off

- Better clinical outcomes BUT patients travel further

Key assumptions

- Outcomes related to location and volume of surgery
- Cost per case unchanged except increased LOS for surviving patients
- Travel increased for surgery plus 15% of outpatient visit to central location
- Travel for clinicians or others not considered

Group Task

- Should vascular services be centralised in this way?
- What does such policy mean in terms of outcomes for patients?
- What does this policy mean in terms of access, equity and cost-effectiveness?

Group task 2

- Option A Provide services locally
- Option B Provide services at regional centre

- Which option is more expensive?
- Which option is more effective in meeting the assumed outcomes?

Quantified trade-off

- Increased costs or £93,00 per year
- Health gain 236 QALYs per year
- Extra travel 20,200 miles

- AT £20,000 QALY threshold the cost per mile travelled suggested by the public is £0.03. At £30,000 threshold this becomes £0.04 per mile.

- These figures are 8,000 times greater than the maximum cost per mile suggested by the implicit trade-off.

- Generally we would have to be willing to pay more than £229 per mile to avoid travelling

How should we trade?

- Should we centralise vascular services?

How should we trade off? Waiting time

- Government policy on shorter waiting times has resulted in waiting list initiatives – many of them carried out in the private sector.

- We looked at a hypothetical case of reduced waiting time for varicose vein surgery

- It is likely that timely intervention will be effective but may not be cost effective.

The implied trade-off

- Surgery is more expensive BUT shorter waiting times.

Key assumptions

- Private sector involvement has no impact on NHS capacity
- Impact on waiting time for the individual only
- No difference in the outcomes
- Any complications/repeat surgery would be dealt with in the NHS with no excess costs

Group Task

- Private sector waiting list initiatives for varicose vein surgery

- What would such policy mean in terms of access, equity and cost-effectiveness?

Group task 2

- Option A: longer waiting time for non urgent surgery
- Option B: Shorter waiting time with input from the private sector

- Which option will be more expensive?
- Which option will be more effective in health gain?

Quantified trade-offs

- Increased costs £1118 per operation
- Health gain 0.007 of a QALY
- Waiting time reduced by 1-3 months

The implicit trade-off

- The DCE suggests that one month less waiting is valued 1.47 times more than one QALY increase in health benefit.
- At the £20,000 QALY threshold the willingness to pay to avoiding waiting an additional month must be at least £499

How should we trade?

- Should we commission the private sector to provide additional input to reduce waiting time for varicose vein surgery?

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