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A cost-based equity weight for use in the economic appraisal of health services

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Background

- Economic evaluation increasingly used in resource allocation
- Aim to maximise *efficiency*
- *Equity* in distribution also important
- No consensus on best way to combine these concepts

Current methods to incorporate equity into economic evaluations

Qualitative judgements: how fair is the intervention?

- Limitations:
 - May be ad hoc
 - Influenced by ideology and precedent

Quantitative measures: equity weights (e.g. weighted QALYs)

- Advantages:
 - Consistent application of equity concepts in primary analysis
 - Explicit guidance on magnitude of redistribution
- Limitations:
 - Outcomes based – not fair unless all groups value QALYs equally
 - Magnitude based on theoretical judgements
 - Magnitude of inequity not same as resources required for redress
- Experimental

Development of an alternative cost-based equity weight

- Equity a normative concept – what constitutes “fairness”?
- Definition of equity: “equal access for equal need”
- “Equal access” implies appropriate *processes* of health care: weight based on optimal methods of health service delivery for all groups
- Weighting of outcomes less relevant – no consideration of processes by which “access” achieved
- Case study: Australian Indigenous population

Development of cost-based equity weight

1. **Selection of target groups using conventional measures of inequity/inequality**
 - e.g. Life Expectancy, Burden of Disease, Gini Coefficient, etc.
 - Australian Indigenous population disadvantaged using all measures
2. **Magnitude of inequity determined using established measures**
3. **Magnitude of resources required for redistribution based on appropriate processes of health service delivery for target group**
 - Magnitude of inequity \neq magnitude of resources to address inequity
 - “Best practice” health service delivery for Indigenous Australians: Aboriginal Community Controlled Health Service (ACCHS) model of comprehensive primary health care
 - \Rightarrow Weight magnitude = Ratio of costs of providing specific interventions from ACCHSs compared to “baseline” mainstream primary health care services

Hypothetical numerical example

- Average costs of drug treatments delivered from:
 - “Baseline” mainstream GP service = \$100 per patient
 - ACCHSs = \$200 per patient
- => Equity weight magnitude = $100/200 = 0.5$
- => Equity weight of 0.5 applied to costs of all similar drug treatments delivered from ACCHSs, prior to economic evaluation
- Costs attributed to ACCHSs weighted down => lowers cost-effectiveness ratios
- Therefore results of economic evaluations take both efficiency and equity into account
- ACCHSs not penalised for providing more comprehensive/ appropriate services to Indigenous populations when compared with mainstream services

Advantages of cost-based equity weights

- Maintains advantages of other quantitative methods
- Better captures definition “equal access for equal need”
- Weights *resources required to address inequity* rather than size of inequity – solutions based
- A practical (rather than theoretical) means to measure solutions to inequity
- Comprehensible to policy makers
- Relevant to community preferences (particularly target groups)
- If referenced to the same “baseline” mainstream service, comparable across different types of interventions and different target groups => can be used in priority setting and resource allocation

Limitations of cost-based equity weights

- Requires generalisations across heterogeneous population subgroups
- Judgement required to determine “appropriate” health service
- Perverse incentives for inefficiency when determining magnitude of weight
- Assumption that costs of targeted services are greater than that of the mainstream “baseline”
- No direct link between magnitude of inequity and magnitude of resources required to redress, but link could be investigated
- Addressing inequity in health services is only one component of addressing inequity in health

Conclusion

- Remains a work in progress: a set of prototype weights is currently being developed for the Australian Indigenous population
- It is hoped these weights will assist decision making to allow both efficiency and equity to be captured within cost-effectiveness ratios
- “Formula based decision-making” not the intended purpose of the weight – qualitative judgements still required
- But will improve the evidence base on which resource allocation decisions are made