NUS National University of Singapore | Saw Swee Hock School of Public Health

Can we be more systematic?

The role of MCDA in informing policy decisions

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Some slides are from the presentations of Prof. Rob Baltussen and Prof. Praveen Thokala

Recap from the July seminar

- QALY is not always a QALY because there are other social values in health resource allocation

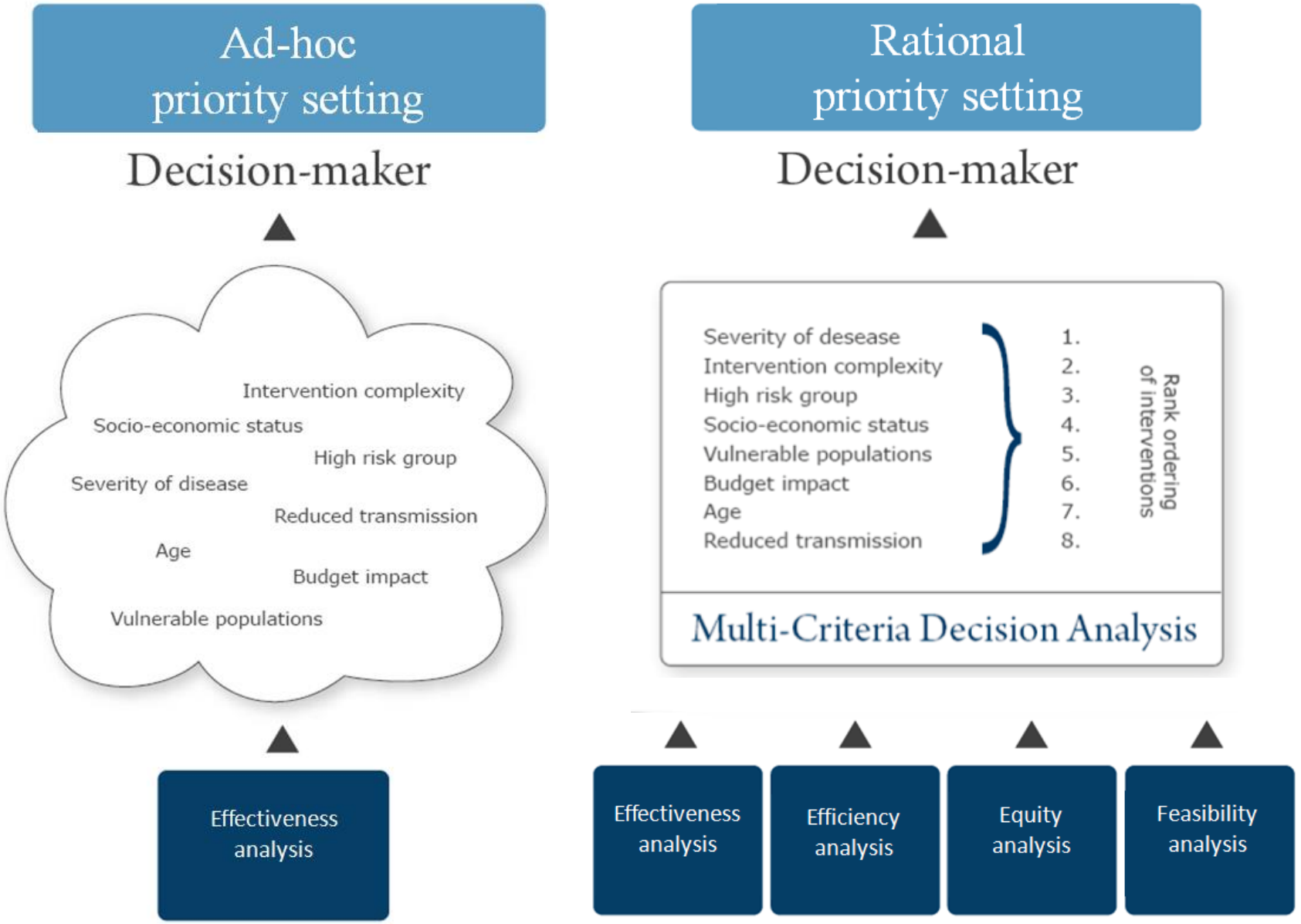
If only one organ available for transplantation and you have to manage it.
You will……

A: Give to 20 year- old who are drug addicted and murder

B: Give to 60 year- old who are a university professor

In this seminar, we will learn….

- how to integrate these social values into policy decision making
  - Multi-Criteria Decision Analysis (MCDA) + hand-on exercise
  - Extended Cost-Effectiveness Analysis (ECEA) → move to the last seminar!


Ad-hoc priority setting
Decision-maker
Intervention complexity
Socio-economic status
High risk group
Severity of disease
Reduced transmission
Age
Budget impact
Vulnerable populations
Effectiveness analysis
Rational priority setting
Decision-maker
Severity of desease
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Vulnerable populations
Budget impact
Age
Reduced transmission
1.
2.
3.
4.
5.
6.
7.
8.
Rank ordering of interventions
Multi-Criteria Decision Analysis
Effectiveness analysis
Efficiency analysis
Equity analysis
Feasibility analysis

What is MCDA?

- An aid to decision making which makes the impact of multiple criteria on decisions more explicit, and the relative importance attached to them

- Aims to improve
  - Quality of decisions by addressing all relevant criteria
  - Transparency of decisions by being explicit
  - Consistency of decisions by using same principles over time
  - -> Legitimacy of decisions

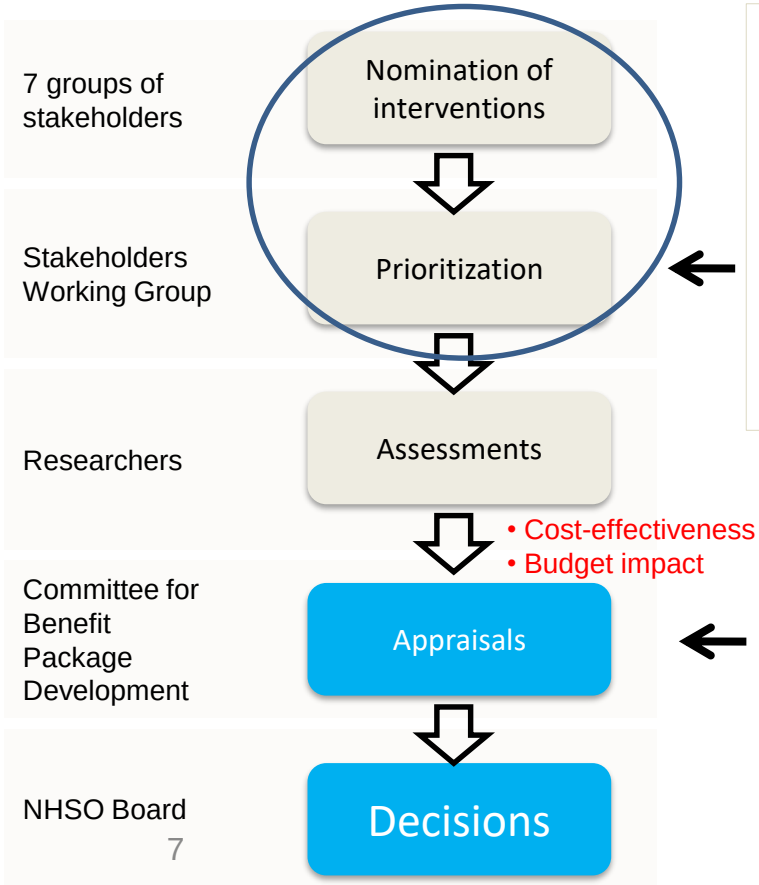
- Typical use of MCDA is largely mathematical

Basic elements of mathematical MCDA

1. Establish decision context and implementation options
2. Define relevant criteria
3. Score implementation options on criteria
4. Calculate overall value - weighing and summing
5. Sensitivity analysis
6. Make a decision

UHC benefit package development

Participatory-Transparent-Evidence-based-Contestable



Criteria:

a) Magnitude & severity of problems
b) Effectiveness of interventions
c) Variation in practice
d) Financial impact on households
e) Equity & ethical dimension
   - problem of the marginalized
   - rare diseases

Appeals by stakeholders

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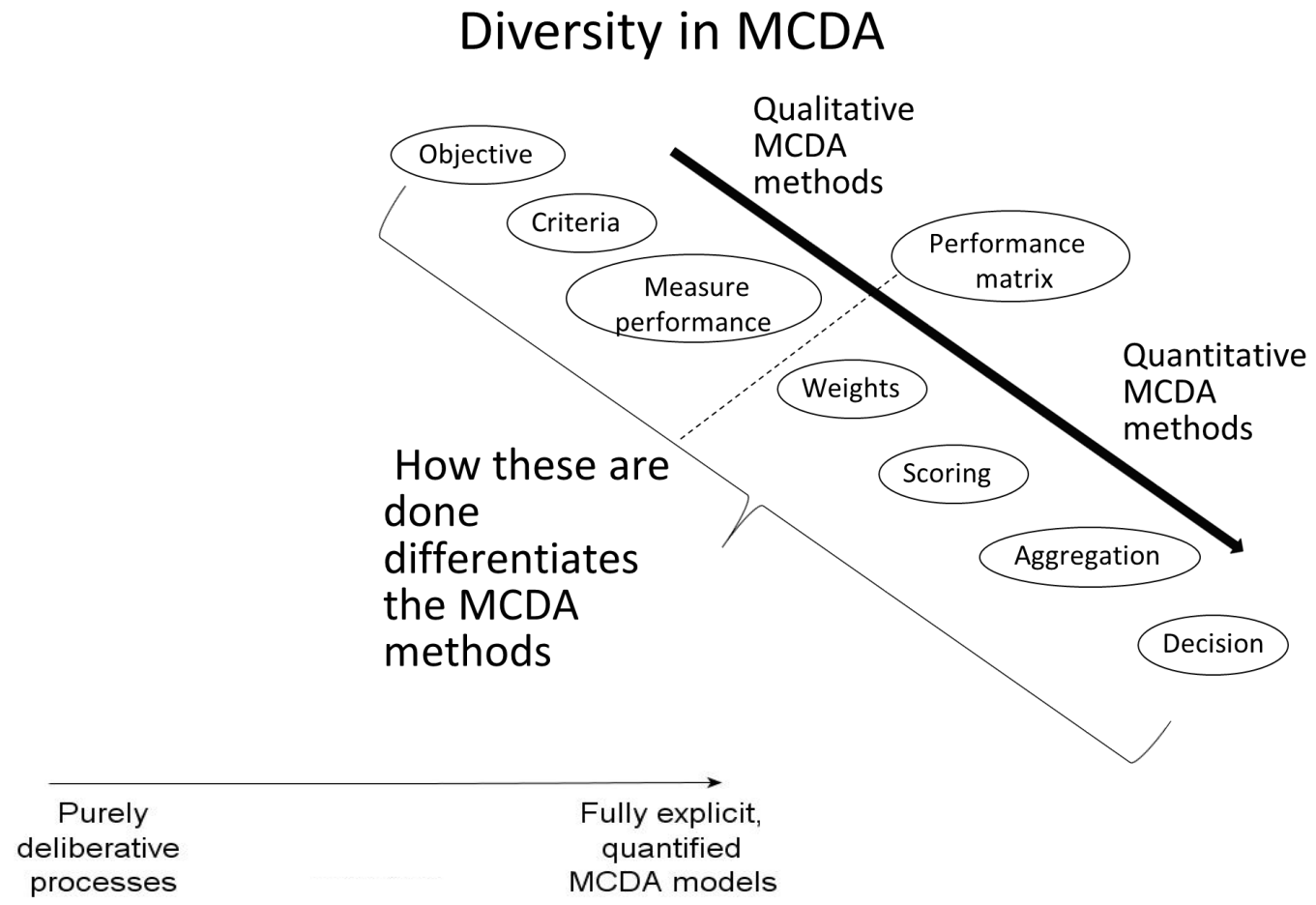
Time for exercise!

Discussion points



UHC benefit package development

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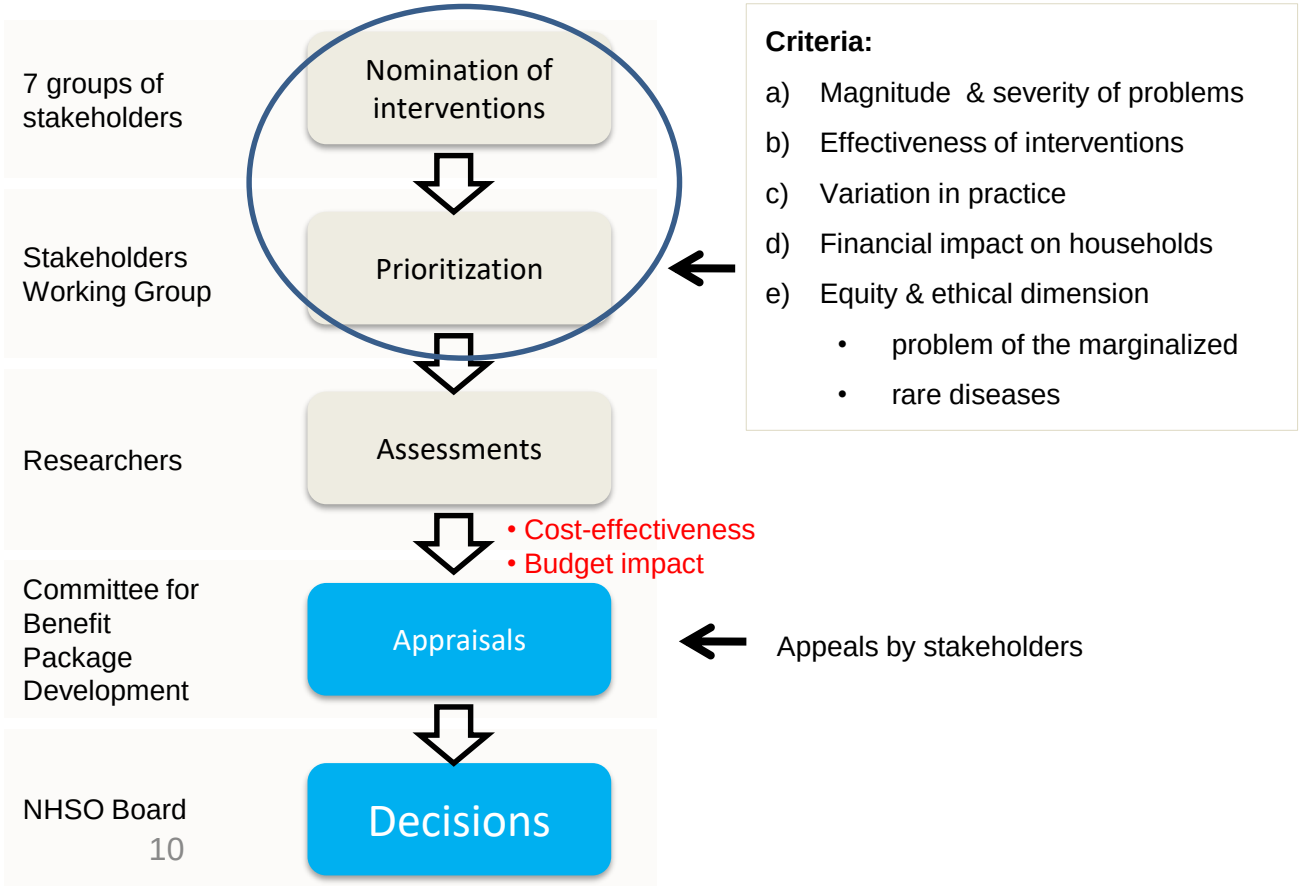

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Criteria used in selection of topics

A consultation panel among policy makers and academics

- Establishing the definition and measurement
- Scoring system by six criteria
- Ordinal scale from 1 to 5
- Equal weight

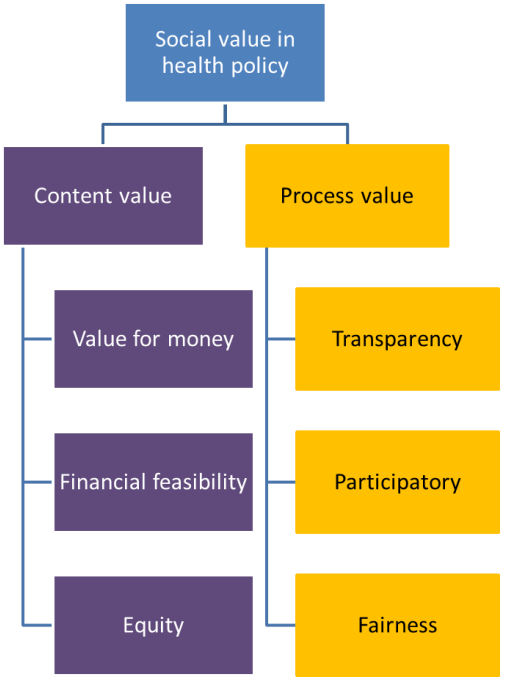
Criteria	Definition	Parameter	Scoring
1. Size of population affected by disease	Number of people affected by the disease or health problem that is treated or prevented by the proposed intervention among Thai population at a specified time	Prevalence	5 = >500,000 4 = 100,001–500,000 3 = 50,001–100,000 2 = 10,001–50,000 1 = ≤10,000
2. Severity of disease	Severity of disease or health problem that is treated or prevented by the proposed intervention by considering its impact on the patients' QOL	QOL score	5 = >0.60 4 = 0.41–0.60 3 = 0.21–0.40 2 = 0.01–0.20 1 = ≤0

3. Effectiveness of health intervention	The final outcomes of the proposed intervention that benefit the patients with regard to the objective of the intervention		
	3.1 For treatment/rehabilitation: Capacity of the proposed intervention to treat or rehabilitate the patients from the disease and its impact on the patients' QOL	The clinical benefit of the proposed intervention and improvement in QOL	5 = cure 4 = prolong life and major improvement in QOL 3 = prolong life and minor improvement in QOL 2 = major improvement in QOL 1 = minor improvement in QOL
	3.2 For screening/diagnostic: Quality of the proposed intervention to screen or diagnose the disease of the patients and the expected outcome beyond the screening or diagnostic	Accuracy of the intervention and whether the screened disease could be cured	5 = accuracy >80% and screened disease could be cured 4 = accuracy 60%–80% and screened disease could be cured 3 = accuracy >80% but screened disease could *not* be cured 2 = accuracy 60%–80% and screened disease could *not* be cured or accuracy <60% and screened disease could be cured 1 = accuracy <60% and screened disease could be cured
	3.3 For prevention: Risk reduction or preventive capacity provided by the proposed intervention to the population	Effectiveness of the intervention to prevent the disease	5 = >90% 4 = 81%–90% 3 = 71%–80% 2 = 61%–70% 1 = ≤60%

4. Variation in practice	Variation of implementing the intervention in practice that leads to unequal accessibility to the intervention among Thais. Variation in practice could be identified from the different coverage of the three publicly funded health insurance schemes in Thailand and/or could be identified from the different distribution of the intervention throughout the country	The difference of the benefit packages between the three health insurance schemes in Thailand The difference of health interventions distribution	5 = national evidence presenting variation in practice in Thailand 4 = national evidence presenting variation in practice in some areas 3 = international evidence presenting variation in practice in other countries that could assume there is variation in practice in Thailand 2 = no evidence but we could assume there is variation in practice in Thailand 1 = no variation in practice
5. Economic impact on household expenditure	Impact on household expenditure as a consequence of providing health intervention to a family member with consideration of catastrophic illness or health catastrophe	Direct medical and nonmedical household expenditure as a consequence of the disease or health problem per year	5 = >62,500 baht/y 4 = 35,601–62,500 baht/y 3 = 20,801–35,600 baht/y 2 = 12,000–20,800 baht/y 1 = <12,000 baht/y
6. Equity/ethical and social implication	Priorities for specific groups of patients, i.e., the poor with rare disease, reflect the moral values that should be considered by policymakers	Disease of the poor Prevalence <1,000 (rare disease)	5 = targeting the poor and prevalence <1,000 4 = targeting the poor and prevalence 1,000–10,000 3 = targeting the poor and prevalence >10,000 2 = *not* targeting the poor and prevalence <1,000 or *not* targeting the poor and prevalence 1,000–10,000 1 = not targeting the poor and prevalence >10,000

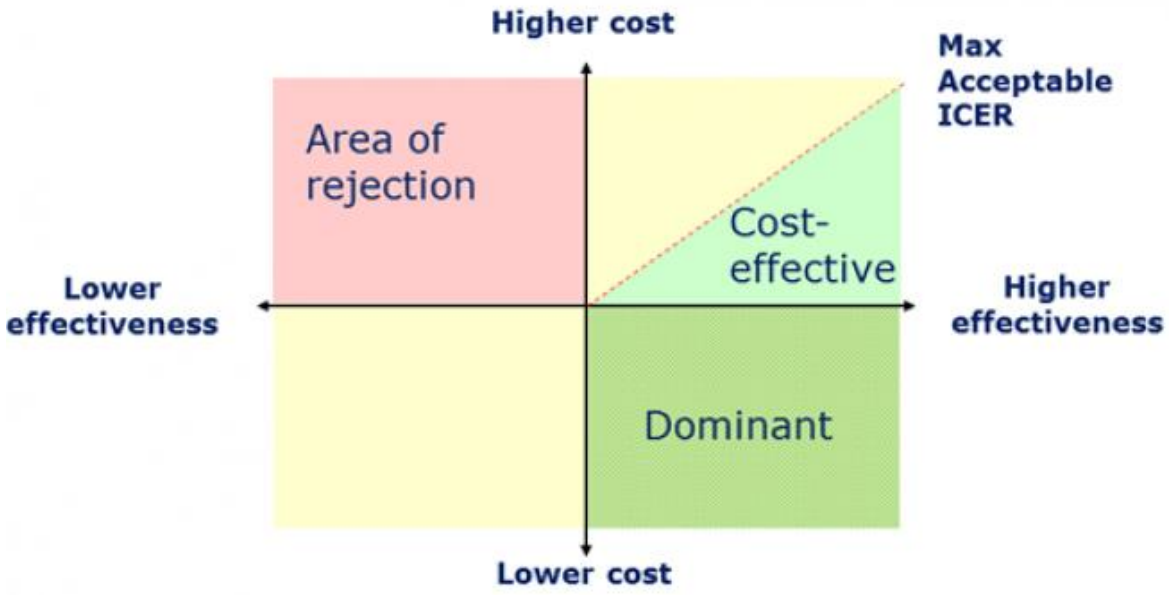
Limitations:

- value assessment through few quantifiable criteria
- priority setting is in reality a value laden process
  - Stakeholders have wide diversity of values
  - Most values require argumentation, not numbers
  - Complex task - deliberation essential to learn



The next seminar: : Can we be more consistent?

- The issues of the cost-effectiveness threshold
- What should and how to identify CE threshold

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