Measuring the value of pain in economic evaluation

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Guide to the methods of technology appraisal

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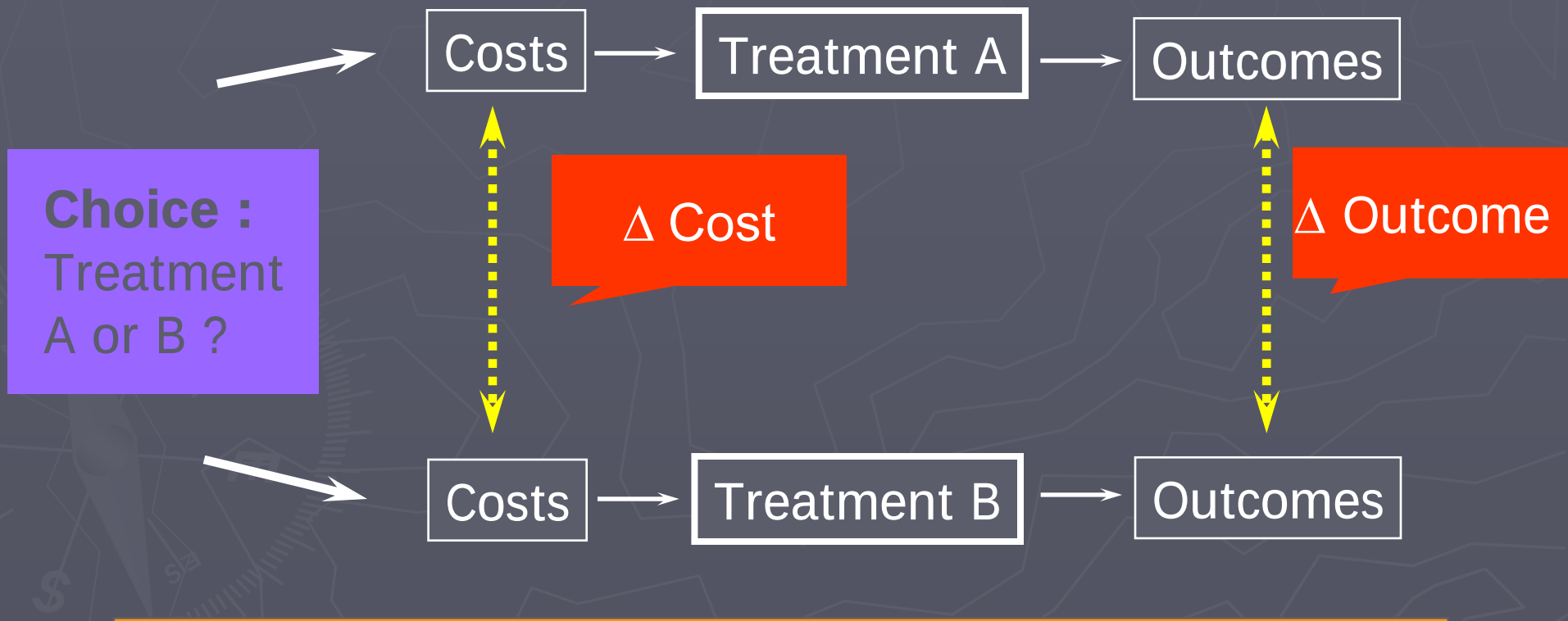
Twin principles

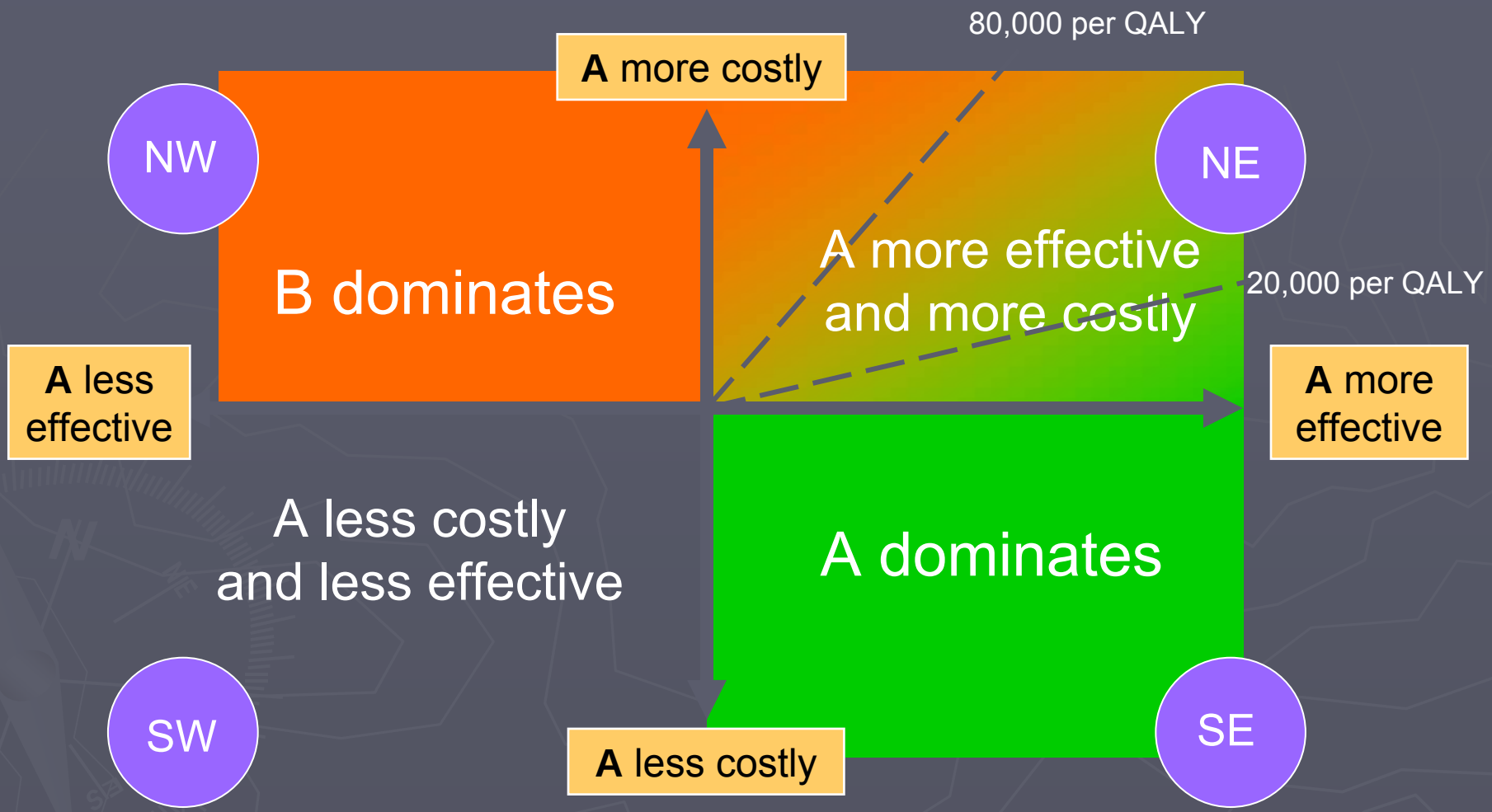
- A technology can be considered **clinically effective** if, in normal clinical practice, it produces an overall health benefit, taking account of any harmful effects, when compared with relevant alternative treatments
- A technology can be considered to be **cost effective** if its health benefits are greater than the opportunity costs measured in terms of the health benefits associated with programmes that may be displaced to fund the new technology

Elements of economic evaluation



Do the **extra** benefits (outcomes) justify the **extra** cost ?

Cost-effectiveness (CE) plane



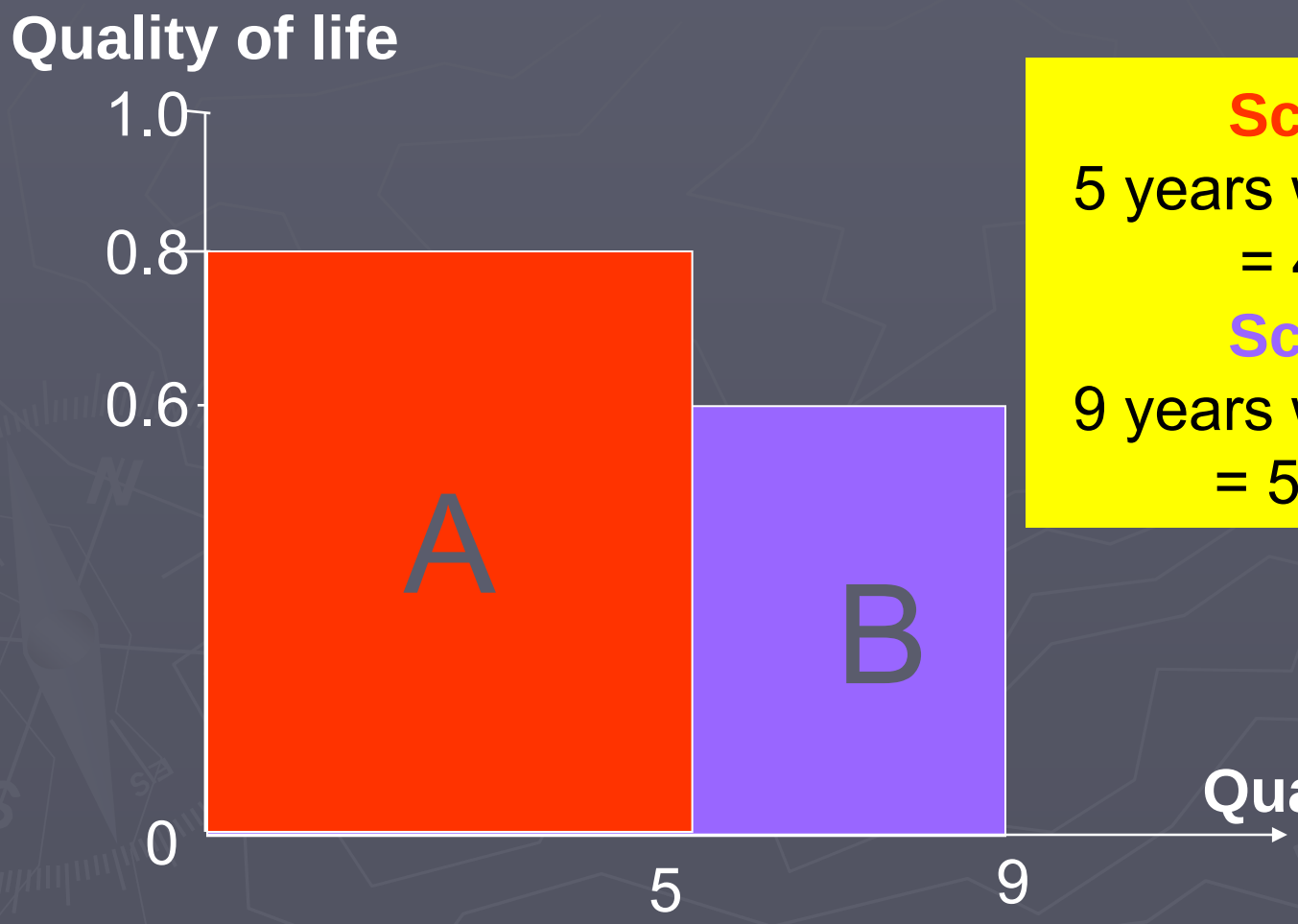
A = New treatment
B = Old treatment

Element of health technology assessment	The NICE Reference case
Measure of health benefits	QALYs
Description of health states for calculation of QALYs	EQ-5D
Method of preference elicitation for health state valuation	TTO
Source of preference data	Representative sample of the general public

Four key questions

- WHAT metric should we use to represent health benefits ?
  - Quality-adjusted life years (QALYs)

Combining information on quality and quantity of life



Scenario A
5 years with QoL of 0.8
= 4 QALYs

Scenario B
9 years with QoL of 0.6
= 5.4 QALYs

Four key questions

- WHAT metric should we use to represent health benefits ?
  - Quality-adjusted life years (QALYs)
- HOW should we describe health benefits ?
  - A generic index of HrQoL (EQ-5D)

EQ-5D

- A generic measure of health status (health-related quality of life) capable of being represented as a single index

- Health is defined in terms of 5 dimensions
  - mobility
  - self care
  - usual activity
  - pain / discomfort
  - anxiety / depression

- Each dimension is divided into 3 levels
  - none
  - some / moderate
  - extreme

- **Tick one box for each group of statements.**

This state 12223

Mobility

- I have no problems in walking about ☑
- I have some problems in walking about ☐
- I am confined to bed ☐

Self-Care

- I have no problems with self-care ☐
- I have some problems washing or dressing myself ☑
- I am unable to wash or dress myself ☐

Logically best state 11111

Usual Activities

- I have no problems with performing my usual activities (e.g. work, study, housework, family or leisure activities) ☐
- I have some problems with performing my usual activities ☑
- I am unable to perform my usual activities ☐

Logically worst state 33333

Pain/Discomfort

- I have no pain or discomfort ☐
- I have moderate pain or discomfort ☑
- I have extreme pain or discomfort ☐

Anxiety/Depression

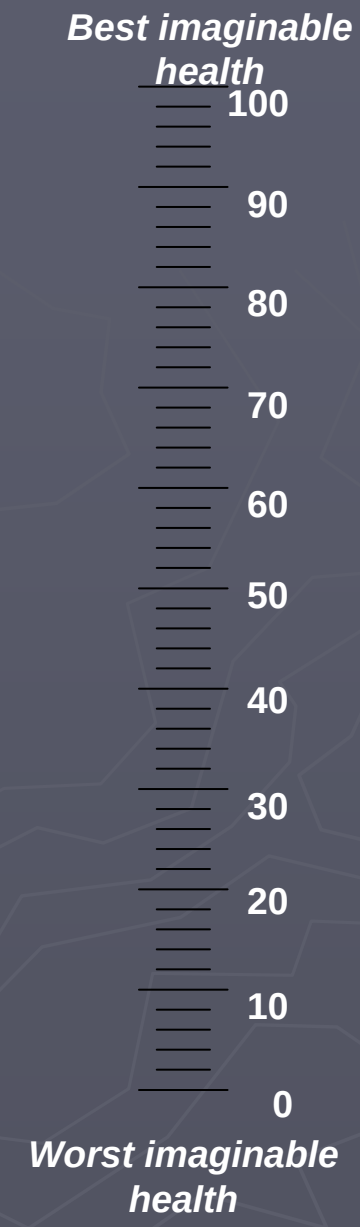
- I am not anxious or depressed ☐
- I am moderately anxious or depressed ☐
- I am extremely anxious or depressed ☑

Think about how good or bad your own health is today.

- This scale may help. The best health you can imagine is marked 100 and the worst health you can imagine is marked 0

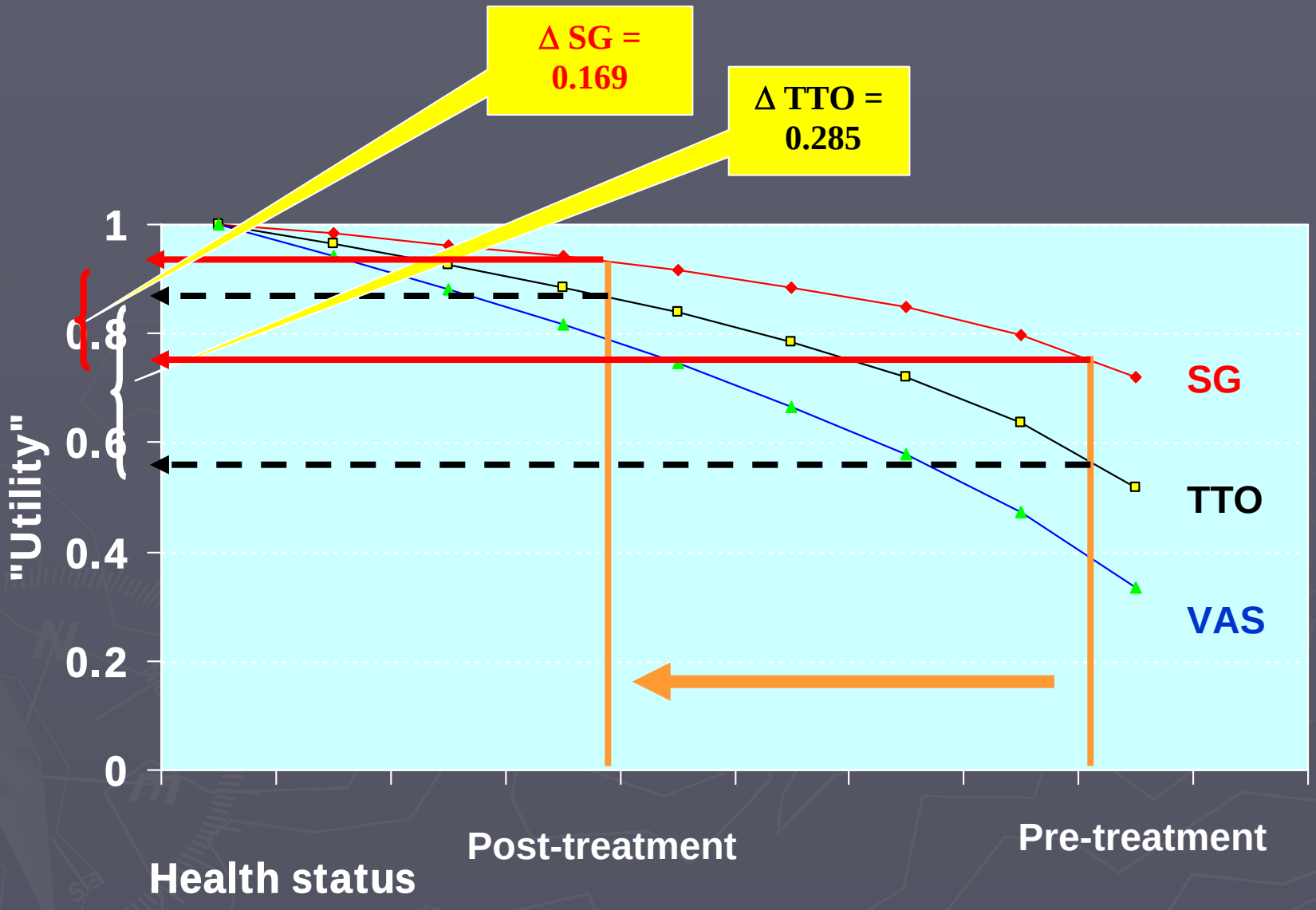
- Please write in the box below, the number between 0 and 100 that you feel best shows how good your health is today

Your own health today



Four key questions

- WHAT metric should we use to represent health benefits ?
  - Quality-adjusted life years (QALYs)
- HOW should we describe health benefits ?
  - A generic index of HrQoL (EQ-5D)
- HOW should we estimate the value of “Q” adjustment ?
  - Choice-based preferences (TTO)



Assuming a 10,000 Euro cost to achieve this health gain

SG-based cost/QALY = 59,172 *TTO-based cost/QALY = 35,088*

Four key questions

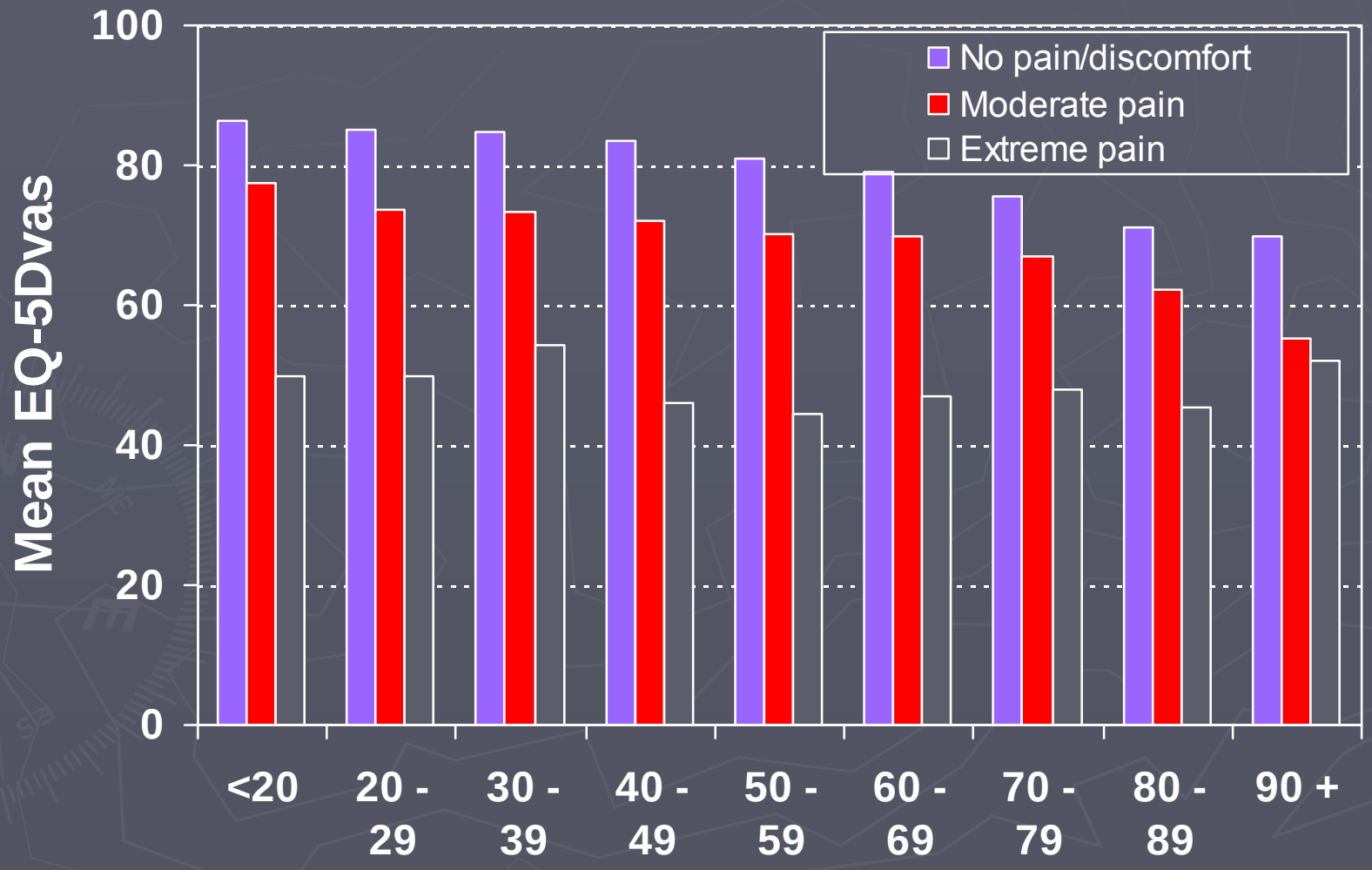
- WHAT metric should we use to represent health benefits ?
  - Quality-adjusted life years (QALYs)
- HOW should we describe health benefits ?
  - A generic index of HrQoL (EQ-5D)
- HOW should we estimate the value of “Q” adjustment ?
  - Choice-based preferences (TTO)
- WHO should value health benefits ?
  - Representative sample of general population

Whose values count ?
Depends entirely on intended use

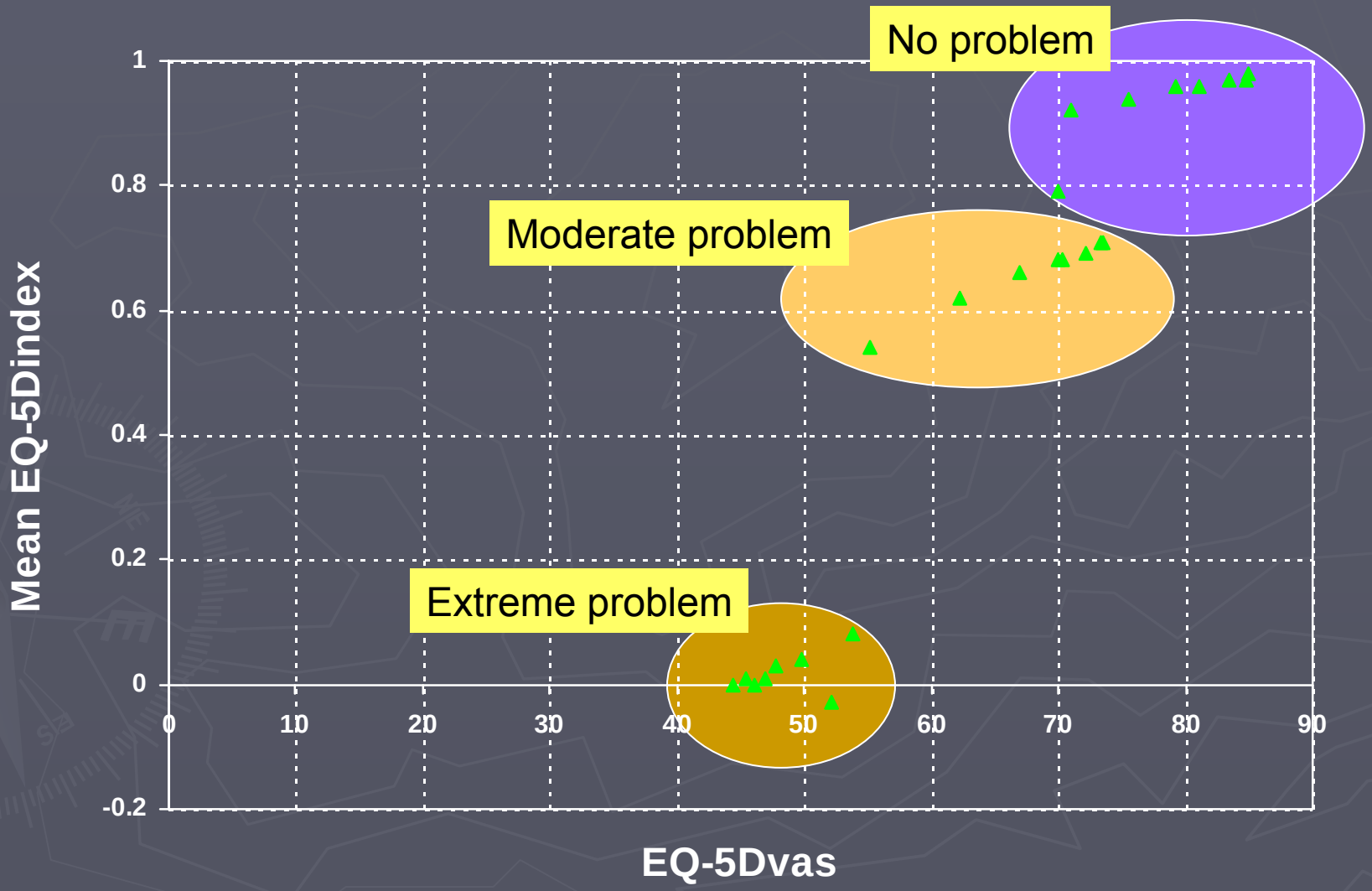
- Social decision-making
  - Cost utility analysis (QALYs)
    - Social preferences – hence the general population
  - Cost effectiveness
    - Arbitrary choice – meaningful to clinician and/or patients directly affected
- Hypothetical values

- Clinical decision-making
  - Patients / healthcare professionals
- "Real" / experienced values

EQ-5D$_{vas}$ and level of reported problems on EQ-5D pain/discomfort



EQ-5D$_{vas}$ and level of reported problems on EQ-5D pain/discomfort



And finally .....

- Respond to the challenge of the opening presentation
  - Establish agreed definition of “outcomes” in the treatment of chronic pain
  - Systematically measure such outcomes
  - Recognise “political” importance of social / indirect costs (non-healthcare specific) but avoid special pleading

Thank you

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