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Erasmus MC University Medical Center Rotterdam

Elicitation of disability weights

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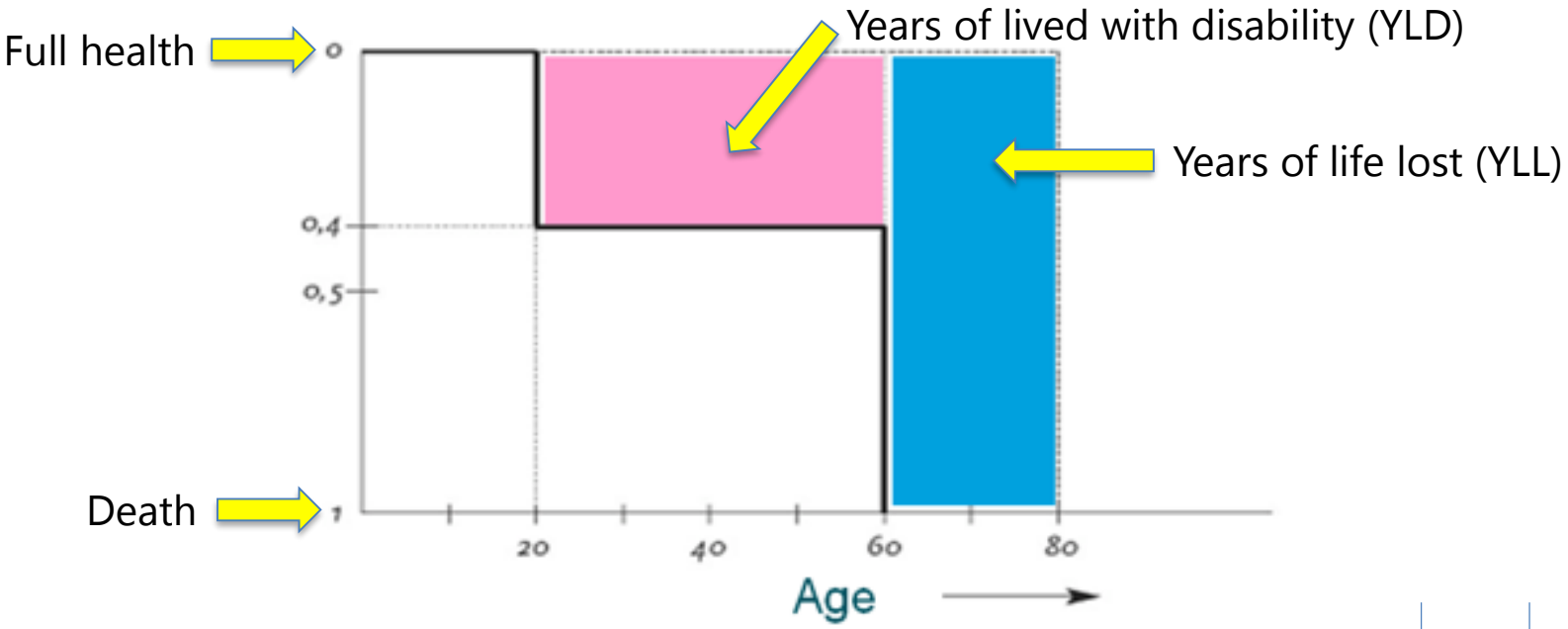
Disability adjusted life year (DALY)

- The DALY is a health gap measure
- It uses healthy time as a unit to measure the health gap



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Disability weights

- A weight is needed to measure health losses from non-fatal outcomes
- Disability weights quantify severity of outcomes as percentage reduction from perfect health

  - e.g., if weight for severe traumatic brain injury was 0.50,

  then 2 people living with severe traumatic brain injury in year of interest would be equivalent to the loss of one year due to premature mortality

Weighing health and disability

- The disability weight is essential for calculating DALYs
- It is a value assigned to living with disability
- It has a value that is anchored between 0 (perfect health) and 1 (equivalent to death)
- This value reflects the relative severity of a health state

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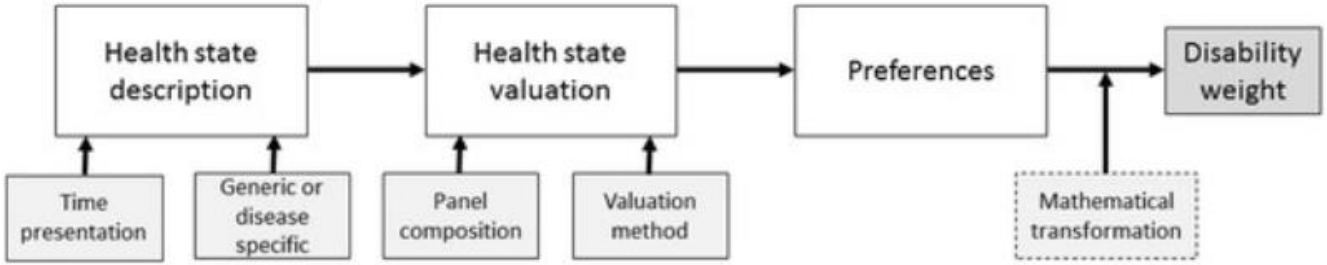
How? Design choices



Conceptual model of assessing disability weights and its design choices.

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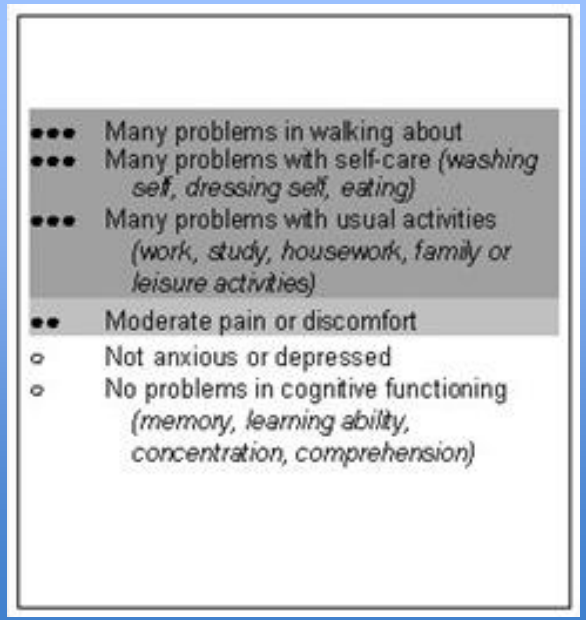
Health state description

HIP FRACTURE

This person experiences pain and stiffness in and around the hip area.



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Whose values?

- Based on health state valuations of a panel of judges
  - Patients
  - Health experts
  - Population

→ Important consideration for the description of the health state.

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Valuation Techniques

- Visual analogue scale
- Time trade-off
- Person trade-off
- Paired comparison

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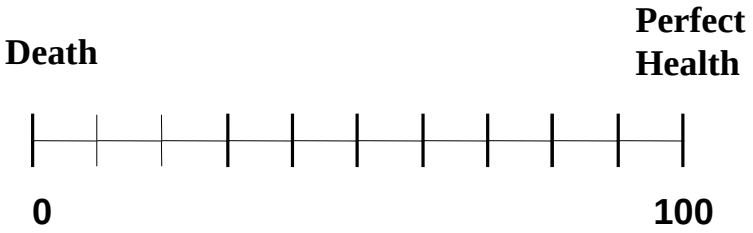
Visual Analogue Scale

Respondents position each health state on a scale from 0 (least desirable or death) to 100 (most desirable or perfect health)



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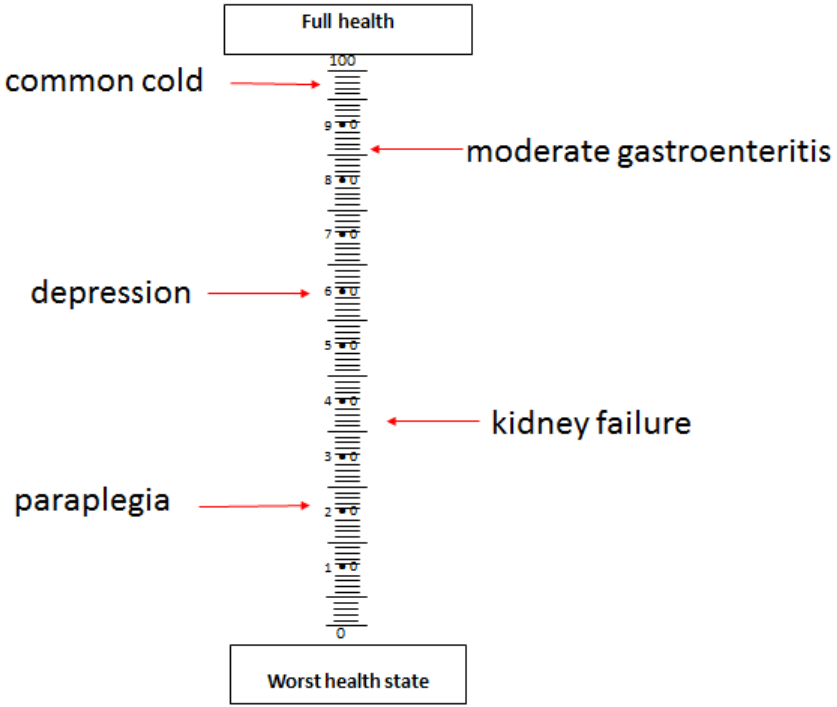
Ranking of health states



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Visual Analogue Scale

Advantages

- familiar to most people from a variety of everyday experiences
- cognitive burden is relative low

Disadvantages

- avoidance of extreme categories, clustering of values
- no choice-based trade-off feature. Therefore, in a technical sense, the VAS does not assess preferences but values

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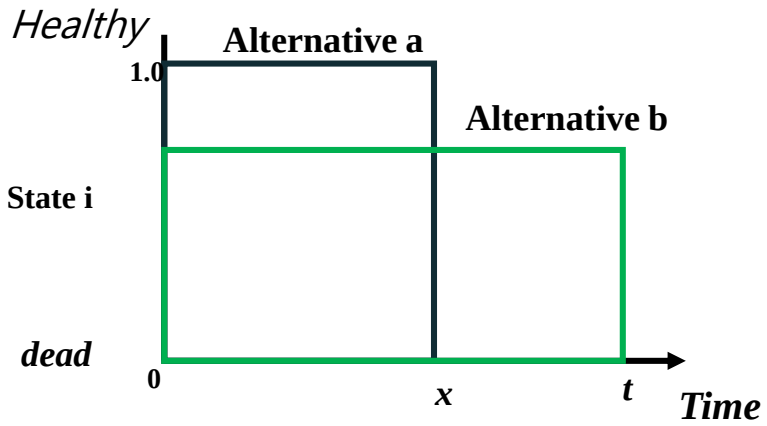
Time Trade-Off

Respondents determine what amount of time they would be willing to give up to be in a better versus a poorer health state



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Time Trade-Off

Advantage

- choice-based: choice between two certain outcomes

Disadvantage

- seems to confound preferences for health states with time preference
- respondents are likely to include other (social) considerations than only health

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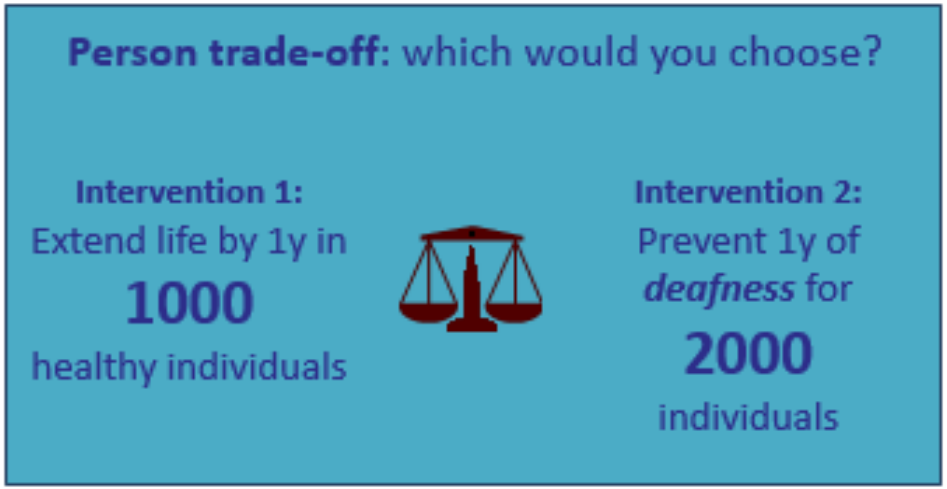
Person Trade-Off

Asks how many outcomes of one kind are equivalent in social value to X outcomes of another kind (here deafness)



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Person Trade-Off

Advantage

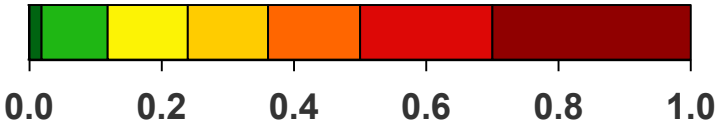
- closely related to resource allocation question

Disadvantages

- respondents are reluctant to make such choice
- cognitive burden is relatively high

First ever disability weights study

- For GBD 1990 study, expert panel (n=10) used ‘person trade-off’ to assign values to 22 indicator conditions.
- The remaining 461 conditions were allocated across 7 disability classes.



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GBD 2010 disability weight study

- After GBD 2010 publication other disability weight studies followed
- ~disability weight measurement studies performed
- Differences in design choices, which affect the values of disability weights

Table 1 Included studies: Panel of judges, health state description, and time presentation

Year	Study	Ref no.	Region	Multiple or single cause?	Panel composition	N panel	N health states	Health state description	Valuation methods *(% of total number of health states valued by each of the methods)*
1996	Murray et al.	[25]	Global	M	ME	10	483	DS	<1% PTO, 99% VAS
1997	Stouthard et al.	[19]	Netherlands	M	ME	38	175	DS + EQ-5D	10% PTO, 90% VAS
2008	Haagsma et al.	[20]	Netherlands	S (injury)	PP	143	44	DS + EQ-5D	100% VAS, 100% TTO

- Over 30,000 respondents (!!!!)
- Multiple countries
- Completely different design