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Section C

Valuing Health States: Methods and Processes

1. VAS

- Visual Analogue Scaling
- Locating health state descriptions on a visual, quantitative scale
- Anchored end-points (invariant) of “full health” and “dead”
- In some cases, states worse than death allowed
- Easy to use and easy to understand
- Not sure of intervals and their meaning

2. Trade-off Methods

- Cognitive complexity—valuing hypothetical states is tough
- Correlation with education and ability to understand; deliberative tool
- The medium which is traded (time, persons, money) is called the “calibrator”
- The calibrator has intrinsic value
- Ceiling and threshold effects

3. Standard Gamble

- Based on game theory of Von Neumann and Morgenstein
- Trade-off between taking risk of immediate death to move out of a health state
- E.g., operation with finite mortality risk to change loss of limb into full recovery
- Risk preferences affect choices

4. Time Trade-off

- Life years sacrificed for moving out of a health state
- E.g., how many life years are you willing to give up for recovering use of your disabled right leg?
- Issues of time preference by those who choose

5. Willingness to Pay

- Different from ability to pay or reality
- Payment in a hypothetical situation for moving out of a health state
- E.g., how much would you be willing to pay to recover the loss of your right leg?
- Value attached to money may vary

6. Person Trade-off

- Persons traded between states of good and less than perfect health
- E.g., how many people in good health would you consider equivalent to x persons in state of health y ?
- *Or*, would you prefer an additional year of health for 1,000 healthy people or for 2,000 blind people?
- *Or*, would you prefer to improve the quality of life of 1,000 blind people for one year or give another year of life for 500 healthy people?
- Values of distribution come into play

Disability Scales

- Examples

1. Disability Severity Scale, Ghana (1981)

Disability class	Severity weights	Example
1	0	Normal health
2	0.01-0.25	Loss of one limb
3	0.26-0.50	Loss of two limbs
4	0.51-0.75	Loss of three limbs
5	0.76-0.99	Loss of four limbs
6	1.00	Equivalent to death

Source: Ghana Health Assessment Team. (1976, 1981, 1984).

2. Global Burden of Disease 1990

- Geneva panel of experts
- Twenty-two indicator conditions developed
- Valued using VAS and PTO methods
- Seven classes of disability scales developed
- All other sequelae fit into the scale
- Used for the whole world
- ... valid?

Disability Classification: Global Burden of Disease, 1990

- Disability classification used in global burden of disease, 1990

Disability class	Severity weights	Indicator conditions
1	0.00-0.02	Vitiligo, height, weight
2	0.02-0.12	Acute watery diarrhea, sore throat, severe anemia
3	0.12-0.24	Radius fracture, infertility, erectile dysfunction, rheumatoid arthritis, angina
4	0.24-0.36	Below-knee amputation, deafness
5	0.36-0.50	Recto-vaginal fistula, major mental retardation, Down syndrome
6	0.50-0.70	Major depression, blindness, paraplegia
7	0.70-1.00	Psychosis, dementia, migraine, quadriplegia

Case 1

- A 65-year-old man (widower) lives alone and has hemiplegia (partial loss of movement) on the left side; he can walk with a walker and do his personal activities (change clothes, bathroom) using aides such as a chair; sometimes he falls; he cannot drive
- Valuation?

Case 2

- A 35-year-old mother of three lost the use of her left leg from polio 20 years ago; she is able to do her personal and childcare activities; has mild problems walking with young children in her arms; has to wear special shoes; sometimes she gets depressed that she cannot run with her kids
- Valuation?