Measurement of healthy life expectancy and wellbeing

Summary for discussion
11 December 2012
Context

• Post 2015 agenda
  – (single) High level health goal
  – One or few indicators with clear targets
  – Global versus country goals, indicators, targets
  – Ability to measure progress towards target(s) for all countries
  – Resonates with policy makers

• European Union
  – Influential Stiglitz Commission report
  – Goal: gain 2 years of Healthy Life Years by 2020
  – Quality of life and wellbeing
Possible measures

• Mortality levels, life expectancy, causes of death

• Healthy life expectancy with GBD approach

• Healthy life expectancy with survey measurement of health state

• Subjective well being and quality of life
Mortality and causes of death

• Life expectancy: attractive summary measure, well understood, used as primary measure by many countries; can be disaggregated

• Age and cause-specific mortality: NCD mortality goal (25 by 25), MDG continuation (child and maternal mortality, HIV/AIDS, TB)

• Avoidable mortality measures (need cause of death), compared to a frontier or using assumptions about proportion that is avoidable

• Mortality rates are needed for healthy life expectancy measures
  – To compute health life expectancy
  – To interpret levels and trends over time (EU example)

• Issues
  – Even in high income countries 2-3 year delays in producing life expectancy estimate from death registration data
  – Lack of good death registration data with reliable cause in many low and middle income countries
    • Reliance on suboptimal measures: mortality data collection in retrospective surveys, cause of death through verbal autopsy
  – Avoidable mortality: problems in measurement over time because of moving frontier over time, other approach leans heavily on assumptions about avoidability
Healthy life expectancy with GBD approach

- Requires age-specific mortality rates, prevalence and distribution of non-fatal conditions, and disability weights
- Makes systematic use of multiple data sources and can be updated regularly
- Comparable methods over time (1990-2010) and can be computed for all countries

Issues:
- Data limitations: prevalence >> mortality
- Results overstate the consistency across countries
- Disability weights:
  - Fixed over time
  - Need further work; better surveys (e.g. descriptions), possibly combine results with expert opinion
- Recent estimates (e.g. 2010) heavily based on prediction
- Cannot disaggregate for equity analysis except geographical differences
Healthy life expectancy based on survey data

- Single question: self-rated health, activity limitations (mostly 5 point scale); EU surveys "For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do?" (3 point scale)
- Focus on functioning (ICF): Health score, using ~ 8 domains (Rasch model) (SAGE; 8*2Q)
- ADL (core tasks, severe disability) and IADL (more complex tasks, mild/moderate disability)
- WHODAS 2.0: based on 12 items (greater inter-country comparability among 65+ in 10/66)
- Questions / modules can easily be included in health and other surveys

- Several indicators perform well (SAGE, 10/66): consistent age and sex patterns (SAGE, 10/66), socio-economic patterns within country surveys
- Association with short and long term survival rates

- Experience with disability-free life expectancy (called healthy life years) in EU
- Dependency-free life expectancy: "needing care much of the time"

- Biological and clinical tests: physical and cognitive tests; hypertension, vision, anthropometry, handgrip strength; body fluid testing - CRP, IL-6, HbA1C, telomere length, lipid profile, markers of immuno-senescence

Issues
- Cross-cultural comparability (SAGE; 10/66 zero inflation correction (China), but often more complicated)
- Ways to adjust for reporting biases (anchoring vignettes) often not successful
- Health examination surveys not widely conducted
- Need to find consistent way of addressing ‘compression of morbidity’ question
Subjective Wellbeing and Quality of Life

- Growing interest in countries to monitor population well-being: from UN to NAS to Bhutan and positive psychology

- Affective/hedonic/experienced well-being (e.g. happy, joy):
  - association with survival and biological measures (cortisol, BP, heart rate variability);
  - Methods: real time data capture; end of day diaries; recall of yesterday's affect (Gallup daily survey, quick); day reconstruction method combines affect and time use; Ecological Momentary Assessments: multiple measurements (using electronic media)
  - attempts to improve consistency of measurement in large scale surveys
    - CASP: 4 questions ("I enjoy the things I do", "I enjoy being in the company of others")
    - Gallup surveys

- Evaluative well-being / life evaluation (e.g. life satisfaction):
  - association with outcome measures weaker than for experienced WB (TL?);
  - WHOQoL is a measure of evaluative WB; measurement issues e.g. positive psychology in rating QoL (flexibility .. optimist .. pessimist)
  - World Values Survey questions (on 10 point scale); Cantrill's self-anchoring ladder; very different age patterns from hedonic WB

- (Eudemonic wellbeing – sense of purpose, personal growth etc.)
Subjective Wellbeing and Quality of Life

- WHOQoL (a measure of evaluative WB): 26 items in 4 domains, physical health, psychological health, social relationships and environment (BREF); long version 100 items add independence and spirituality; EUROHIS QOL (8 items); G1 ("How would your rate your quality of life")

- EU: ongoing process with 9 domains (health, education, material and living environment, productive and valued activities, natural and living environment, experience of life, governance and basic rights, leisure and social interaction, economic and physical conditions)

- OECD: better life index: 11 dimensions (community, education, environment, civic engagement, health, housing, income, jobs, life satisfaction, safety, work-life balance) with 22 headline indicators (How's Life?)
Subjective wellbeing and Quality of Life

Issues:
  • Comparable measurement in surveys; measurement issues the same as for self reported health problems
  • Variability in psychological resilience of people to health challenges and other stressors
  • More extensive measurements may be needed for e.g. measuring flexibility, time use, resilience, but may limit application and comparability
  • Development of summary measures: standardized common global measures; comparative analyses / ranking; lack of conceptual clarity needed
  • Health is only one component of many
What can be recommended to feed into the post 2015 discussion?

What work needs to be done?