Analysis of Utility Trends and Implications in Ghanaian Patients

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Outline

- Background on QALYs, utilities, and past trends
- Results
- Discussion/Explanations
Value-Based Medicine

• Now widely accepted
• Goal: choose health interventions that maximize improvements in quality of life, length of life, or both
• Implications in developing countries
  – Immense health challenges with limited budget
  – Need to prioritize
Background/Methodology

- QALY = Quality Adjusted Life Year
- QALYs gained from a health intervention = (Increase in Utility) × (Years to benefit)
- This study looks at trends in the utility states of patients receiving care by Crystal Eye Clinic at Unite For Sight outreaches
Question

Past findings suggest that utility analysis is *innate to human nature*, rather than group specific.

- Independent of:
  - gender
  - marital status
  - age
  - education
  - income level….

*Does this finding hold true for the patients in Ghana?*
Utility Calculation

• Time trade-off method

• Imagine that you have \((20/10)\) years left to live. If you could give up some of these years in order to have perfect eyesight, how many would you give up?
Calculation

• Utility = 1 - (# of years willing to give up)/20

• Ex: If willing to give up 5 out of the 20 years:
  – Utility = 1 - (5/20) = 0.75
In addition to asking the QALY question, interview asked for:

- Age
- Occupation
- Sex
- Wealth (through standardized items)
- Number of living children
- Visual Acuity (VA)

Extreme difficulty: use of translator
Characteristics of Sample

- Number of respondents: 165
  - 13 excluded because would not answer QALY question
- Average age: 51
  - Limited to 18 and over
- Gender Composition: 49% F, 51% M
- Most common occupation: Farmer and Trader
Results

Average Utility: 0.80
  – Similar to past UFS results (Blair Irwin 2009)

Correlation between utility and VA = 0.197
Regression Results

- Visual acuity significant alone, but not after the inclusion of other control variables ($p<0.001$).
- Only significant variable in 5-var model: number of living children.
  - Coefficient significantly negative ($p<0.10$)
  - Practical explanation
Why is visual acuity not a very significant predictor of utility?

1) Qualitative factors skewing results in Ghana
   – Religion
   – Views towards old age
2) Support for all-inclusive model?
   – UFS
Qualitative Factors

Religion
- “In G-d’s hands”
- “G-d will decide”
- “I’m not the creator”

Views towards old age
- “Can’t tell”
- “Don’t need eyes at this age”

Room for further research.
Conclusions

• Similarities to past research
  – Positive correlation between VA and utility
  – Similar average utility

• Differences
  – VA not statistically significant predictor
  – Number of living children?
Further Research

• Qualitative research on religion, difference in beliefs
• Should QALY utilities thus be analyzed differently in developing countries?
• Effects on health policy?
Thanks

• Unite for Sight
• Sammy, Dennis, Jerome, Rose, Kartee, Robert, Ernest, Steve, and John
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