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Health-related quality of life of people attending screening for diabetic retinopathy within a trial setting

CJ Sampson,[1†] M James,[1] D Van Eker,[2] D Szmyt,[2] SP Harding[3]

[†]chris.sampson@nottingham.ac.uk

[1]University of Nottingham | [2]Royal Liverpool University Hospital | [3]University of Liverpool

Introduction

Background • DR associated with lower health-related quality of life (HRQoL) • Economic evaluations tend to base outcomes on visual acuity.

Aims • Estimate generic HRQoL for a cross-section of attenders within the UK screening programme • Inform calculation of quality-adjusted life years (QALYs) for model-based economic evaluation.

Methods: *the sample*

- 874 people from 7 screening centres in Liverpool, UK
- Baseline trial data from the ISDR study
- Matched screening outcome data
  - **R0** No retinopathy
  - **R1** Background retinopathy (in at least one eye)

Methods: *outcome measures*

- Two widely-used generic descriptors of HRQoL.
- Both can be used to calculate QALYs.
- Together provide 5 ways to measure HRQoL.

EQ-5D-5L

Dimensions 5 dimensions reported from 1 (no problems) to 5 (extreme problems)

Index score Weighted score based on health state preferences elicited from the UK general public, used to calculate QALYs

EQ-VAS A visual analogue scale from 0 ("The worst health you can imagine") to 100 ("The best health you can imagine")

HUI3

Dimensions 8 dimensions (including 'vision') scored from 1 (no problems) to 5 or 6 (severe functional limitations)

Index score Multi-attribute utility function, to calculate QALYs

Results: *full sample*

- 840 (**96%**) fully completed EQ-5D-5L
- 738 (**84%**) fully completed HUI3
- Mean EQ-5D-5L index score was **0.777**
- Mean HUI3 index score was **0.707**

Table: EQ-5D-5L: distribution of responses

	1	2	3	4	5
Mobility	52%	15%	17%	15%	0%
Self-care	76%	10%	10%	4%	1%
Usual activities	57%	15%	15%	10%	3%
Pain/discomfort	43%	20%	20%	14%	4%
Anxiety/depression	67%	14%	12%	5%	1%

Table: HUI3: distribution of responses

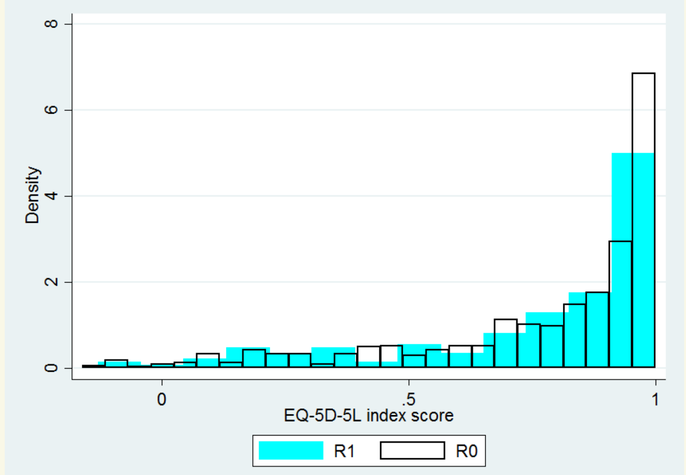
	1	2	3	4	5	6
Vision	31%	63%	3%	2%	2%	1%
Hearing	78%	11%	7%	3%	1%	0%
Speech	93%	4%	2%	0%	0%	—
Ambulation	63%	18%	11%	5%	2%	0%
Dexterity	81%	14%	2%	2%	1%	0%
Emotion	66%	21%	9%	3%	1%	—
Cognition	68%	8%	18%	4%	2%	0%
Pain	40%	26%	15%	12%	7%	—

- Dimensions with ≥ 20% of responses are highlighted

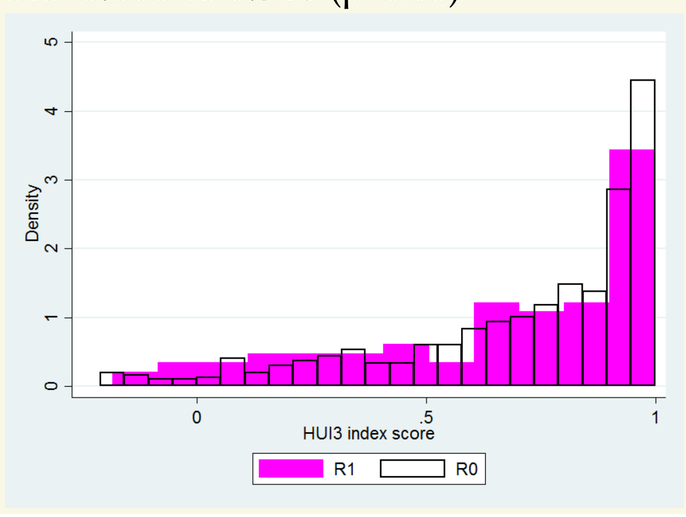
Results: *R1 vs R0*

- R1 screening outcome associated with **lower HRQoL** on average than R0

EQ-5D-5L **0.762** vs **0.776**



HUI3 **0.660** vs **0.713** (p=0.03)

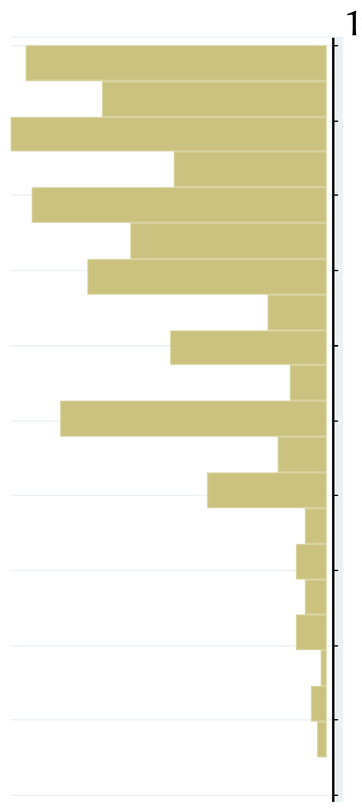


EQ-VAS: How do EASDec delegates compare?

- The left side of the scale shows the distribution in our sample.
- Place a sticker on the right according to how good or bad your health is TODAY.

The best health you can imagine

100



0

The worst health you can imagine

Discussion

- HUI3 recognised as being more sensitive to visual impairment, but may require trade-off with data quality
  - Lower mean HUI3 index score may reflect inclusion of sensory domains
- Economic modelling studies that treat R1 and R0 as homogeneous may give biased results
- We cannot determine whether the difference in HRQoL between R1 and R0 is *because* of retinopathy level

Conclusions

- DR screening attendees have an impaired HRQoL compared with the general population
- People with background retinopathy have lower health-related quality of life than people with no retinopathy
  - Statistically significant difference of 0.053 in mean HUI3 index score
- HUI3 is associated with poorer completion rates
  - Greatest missingness on 'vision' domain

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