Putting the ‘P’ back into PROMs: using patient valuations of EQ-5D health states to improve hospital performance comparisons

Thomas Patton, Nils Gutacker, Koonal Shah, David Parkin
Background

• NHS England’s PROMs Programme: since 2009, EQ-5D data used to develop hospital quality performance indicators to help prospective patients choose their healthcare provider.
Background

• Health preferences from the general public are appropriate for HTA in collectively funded healthcare systems
  • Justification: values should reflect the preferences of the collective so as to maximise the utility derived from their expenditure.

• Outside the HTA context the justification for general population preferences weights is *less clear*
  • Notion of patient sovereignty in hospital choice or shared-decision making
  • Hospitals seek to improve care of ‘customers’ not general population
  • Patient values most appropriate but are difficult to elicit individually
Study Objectives

• This study explored whether using patient weights instead of general population weights led to changes in providers deemed performance outliers.

• Developed a patient tariff using self-reported EQ-VAS and EQ-5D-3L descriptive system responses.

• Sample: 122,940 primary total hip replacement (THR) patients aged 15 or over (04/2012 to 03/2016) with complete pre- and post-operative PROM response.
Methods

• **Step 1: Developing a patient value set**
  • Tested models with N3 and interaction terms between dimensions of the descriptive system
  • Assessment of fit, predictive performance, consistency of decrements in the descriptive system

• **Step 2: Assessment of hospital performance**
  • Adjustment for differences in hospital case-mix using observed-expected methodology (official NHS England model)
  • Adjustment For Sampling Uncertainty
Impact of Tariff on Performance Assessment

The graph shows the relationship between the General population (MVH-A1) value set (z-score) and the Patient value set (z-score). The data points are categorized into three groups:

- Circles: Same assessment under both value sets
- Diamonds: Performance outlier using general population values
- Squares: Performance outlier using patient values

The scatter plot indicates a strong positive correlation between the two sets, with the majority of data points clustered around the origin, suggesting that as the patient value set increases, the general population value set also tends to increase.
Impact of Tariff on Performance Assessment

The graph shows the percentage distribution of patient values and general population values across different performance categories (1 or more, 2 or more, 3 or more). The categories are marked as good performers and poor performers. The graph indicates that:

- In the category of 1 or more, patient values show 34% while general population values show 10%.
- In the category of 2 or more, patient values show 62%, and general population values show 24%.
- In the category of 3 or more, both patient and general population values show 0%.

The overall comparison suggests a higher percentage of patients falling into the 'good performer' category compared to the general population.

Source: Centre For Health Economics
Conclusions

• Patients value dimensions differently (lower decrements, AD>PD)

• Patient weights lead to changes in providers deemed performance outliers
  – Might affect choice of hospital / focus of quality improvement efforts

• Implications for future research: collection of TTO values in patients to develop value set?