

Standardised assessment of patient value in health

M. Rouse, J. Twiss & S. P. McKenna (2016): Co-calibrating quality-of-life scores from three pulmonary disorders: implications for comparative-effectiveness research, *Journal of Medical Economics*, DOI: 10.3111/13696998.2016.1148700

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Galen scientists have just published an important paper describing how three disease-specific respiratory measures can be co-calibrated to allow valid comparisons of patient value to be made across diseases.

A clear advantage accrues from this technique. We no longer have to rely on 20th century generic measures such as the SF-36, SF-12 and EuroQoL that have poor measurement properties and are no longer acceptable to health authorities such as the FDA and EMA to make such comparisons. In contrast, precision disease-specific measurement can be employed in health research to compare the impact of treatments for different diseases.

The disease-specific measures require three fundamental properties:

- A standardised coherent theoretical basis.
- Fit to the Rasch model; i.e. they must be unidimensional, valid and generate scores at the interval level of measurement. This represents 21st Century measurement.
- They need to share some common items to permit co-calibration of the disease-specific scales.

The only commonly used theoretical measure of patient value in health research is the needs-based model. The quality of individual's lives is dependent on their ability to meet the needs that they have. Disease prevents need-fulfilment. The value of any intervention is its ability to improve need-fulfilment.

The paper shows how the needs-based disease-specific measures for asthma (ALIS), COPD (LCOPD) and pulmonary hypertension (CAMPHOR) can be co-calibrated to allow direct comparison of the value of interventions on patients with any of these diseases. The article builds on a related study showing how the outcomes of treatments for psoriasis (PSoriQoL) and atopic dermatitis (QoLIAD) could be similarly compared.¹

The paper also introduces the concept of the gamma score. This is the standardised measure of outcome as determined by the catalogue of needs-based measures (of which over 30 are available). A value of 1 gamma represents the same amount of change on any of the needs-based measures. Consequently, it is possible to compare the value of different types of interventions (clinical, social, lifestyle etc. or combinations of these) on a wide range of different diseases. Use of such a standardised measure of patient value will be invaluable in big data and health applications.

¹ Twiss, J., & McKenna, S. P. Comparing the impact of psoriasis and atopic dermatitis on quality of life: Co-calibration of the PSORIQoL and QoLIAD. *Quality of Life Research*, 2015 24(1), 105-113.

In addition to these advancements, it becomes possible to relate patient value to cost of treatment in a valid way. Packages of interventions can now be compared in terms of value for money. The approach can also be used to evaluate different methods of providing health services or the performance of different service providers. The ability to determine the true value of health scores is crucial given the rapidly rising costs of healthcare worldwide.

Anyone interested in discussing these new approaches to measuring the value of outcome should contact Galen Research Ltd.