

British Journal of Dermatology 2015

Commentary

**Title: Essential inputs for studies of cost-effectiveness analysis in melanoma**

**Author:** Rachael L Morton,

Health Economist and Senior Research Fellow, School of Public Health, Sydney Medical School, The University of Sydney, Camperdown, NSW 2006

Health-related quality of life, measured in either ‘utilities’ or ‘disability weights’ is an essential component of cost-effectiveness analysis and burden of disease studies. Decision-analytic models which underpin most of the comparative analysis of submissions to health technology assessment agencies such as NICE, CADTH and PBAC require robust data on utility-based quality of life for the calculation of quality adjusted life years (QALYs).<sup>1-3</sup> Until now, the available data on utility-based quality of life for each AJCC melanoma stage has been limited to a few prospective studies with small numbers of participants. In the article that accompanies this editorial, Tromme et al<sup>4</sup> present mean utilities and disability weights for both melanoma treatment and remission (i.e. follow-up) health states. The authors are to be commended for their robust calculation of precision estimates using statistical bootstrap methods that allow health economists and modellers to use upper and lower limits in sensitivity analyses.

Two important points concerning the empiric measurement of health-related quality of life for melanoma patients need to be highlighted. The first is that the instruments or questionnaires used should be sensitive to the domains of quality of life that are likely to change as a result of the disease, the routine treatment or a targeted intervention. Tromme et al report that over half the melanoma patients in their study reported anxiety or depression, however this domain on the EQ-5D-5L instrument was somewhat insensitive to detecting this health state.<sup>4</sup> Similar findings are reported in a review of existing quality of life instruments where little attention was given to psychosocial or

emotional wellbeing, two of the issues most pertinent to melanoma patients.<sup>5</sup> Given this, clinician researchers should question whether the EQ-5D-5L is an appropriate choice for future cost-effectiveness studies. The Assessment of Quality Of Life eight dimensions (AQOL-8D) is an alternative utility-based instrument that may be more sensitive to changes in mental health, and therefore more useful for economic evaluations.<sup>6</sup>

The second point relates to melanoma follow-up. Patients in follow-up, often referred to as melanoma survivors, constitute a large and growing proportion of the dermatology / oncology caseload.<sup>7</sup> Best practice indicates that cost-effectiveness analyses should adopt a patient lifetime horizon, and this therefore involves longitudinal estimates of quality of life following treatment. Longitudinal assessment is needed to help us understand the factors that influence quality of life, and why for example patients with AJCC stage IV melanoma in remission, are reported to have a higher quality of life than patients with resected AJCC stage III disease.<sup>4</sup> A detailed description is currently lacking of the activities that are undertaken during follow-up care for each melanoma stage, including the personnel who provide follow-up care. These factors combined with the frequency of follow-up visits and the use of diagnostic imaging can all impact on patients' quality of life.

Further research in these areas will lead to more accurate estimates of health-related quality of life over the longer term. Good quality data can better inform decisions about the allocation of resources for melanoma patients.

## References:

1. National Institute for Health and Care Excellence. Guide to the methods of technology appraisal 2013. *NICE article PMG9*. 2013;April 2013.
2. Department of Health. Guidelines for preparing submissions to the Pharmaceutical Benefits Advisory Committee. *Pharmaceutical Benefits Advisory Committee*. 2013;Version 4.4(Commonwealth of Australia).
3. Canadian Agency for Drugs and Technologies in Health. Guidelines for the Economic Evaluation of Health Technologies: Canada. *3rd ed*. 2006.
4. Tromme I, Beutels P, Richez P, et al. Health related quality of life in melanoma patients expressed as utilities and disability weights. *British Journal of Dermatology*. 2014.
5. Winstanley JB, White EG, Boyle FM, Thompson JF. What are the pertinent quality-of-life issues for melanoma cancer patients? Aiming for the development of a new module to accompany the EORTC core questionnaire. *Melanoma Research*. 2013;23(2):167-174.
6. Richardson J, Iezzi A, Khan MA, Maxwell A. Validity and Reliability of the Assessment of Quality of Life (AQoL)-8D Multi-Attribute Utility Instrument *The Patient - Patient Centered Outcomes Research*. 2014;7:85-96.
7. Sondak VK, Leachman SA. Individualizing Follow-Up for Patients With Early-Stage Melanoma. *Journal of Clinical Oncology*. 2011;29(35):4606-4608.