Reviewer's report

Title: Using the random forest method to detect a response shift in the quality of life of multiple sclerosis patients: a cohort study

Version: 2 Date: 3 January 2013

Reviewer: Hiromi KIKUCHI

Reviewer's report:

Major Compulsory Revisions
1) The authors analyzed the variable importance score (VIS) of SF-36 (MCR, PCS, eight subscale and X) in the global MusiQOL index forecast. It seems that the authors can also calculate VIS of each MusiQOL dimension in the global SF36 score forecast. It makes the comparison of RS possible among different diseases.

2) EDSS scores of worsened and not-worsened groups at the baseline are significantly different. The authors can consider the possibility that RS is derived from the worse EDSS score at the baseline. The authors can analyze the data of worsened and not-worsened groups whose EDSS scores at the baseline are matched. If possible, logistic regression analysis seems suitable.

Minor Essential Revisions
1) It might be better to adopt the same scale in the vertical axes of both figures in Figure 2. It can elucidate the difference of RS between worsened and not-worsened groups more clearly.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.