

Introduction Definitive values for the "minimum clinically important change score" (MCIC) are commonly sought for interpreting the change-scores in patient questionnaires after treatment. The relationship between change-scores and an external criterion/anchor ("gold standard"), such as the "global treatment outcome" (GTO), forms the basis of the calculations of MCIC. This relationship may, however, depend on various patient characteristics. We evaluated factors that influenced the rating of GTO at 12 mo postop, over and above the given questionnaire change-score. Methods The data from 13'958 patients (62.0 SD 17 y; 54% women) in our local registry who had undergone thoracic or lumbar spine surgery and had returned preop and 12-mo postop Core Outcome Measures Index (COMI) questionnaires (87% FU rate), were included in the analysis. GTO was rated at 12 months as "the operation: (1) helped a lot, (2) helped, (3) helped only little, (4) didn't help, or (5) made things worse". Grades 1 and 2 were considered a "good" GTO and 3-5, "poor". Logistic regression was used with dichotomised GTO (good vs poor) as the dependent variable and COMI change-scores (from preop to 12 mo postop) as the independent variable, along with other independent variables that might influence GTO: age, sex, insurance status, comorbidity (ASA grade), and baseline COMI score. The statistical significance for the association between each of the latter and the odds of achieving a "good GTO" (while controlling for the change in COMI score) was determined. Results 77% patients reported a good GTO (op helped/helped a lot). Mean COMI change-scores were 4.7 (2.6) for those with "good" GTO and 0.96 (SD 1.9) for patients with "poor" GTO ($p < 0.01$). The correlation between individual change-scores and GTO ratings (all 5 categories) was adequately strong at -0.66 (Spearman Rank Rho, corrected for ties). In logistic regression analysis, factors associated with a reduced likelihood of achieving a good GTO for any given COMI change-score were higher age and a worse baseline status (i.e. higher COMI score). Being female was (weakly) associated with an increased likelihood of a good GTO for a given COMI change-score. Conclusion Older patients and those with worse baseline status require a higher COMI change-score to rate the 12-mo global treatment outcome as "good". In other words, the MCIC would be significantly greater in these groups. Insurance status and comorbidity appeared to have no unique influence on the relationship between COMI change-score and GTO. We conclude that one size does not fit all when it comes to determining the Minimal Clinically Important Change score. Future outcome studies should be aware of the factors influencing the size of the MCIC in different patient subgroups.