

P108 Meaningful change estimates of different PROMIS short forms within domains do not differ

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Objective: Estimation of meaningful change is required to interpret PROMIS scores. Though overall guidance for meaningful change thresholds has been offered, it is not clear if different PROMIS short forms within domains yield different meaningful change estimates.

Methods: We used data from a prospective, observational study of 1828 cancer patients. Each participant was surveyed at a baseline timepoint and 6 weeks later on several PROMIS domains that each included 2-3 short forms of differing lengths: Anxiety (4a, 6a, 8a), Depression (4a, 6a, 8a), Ability to Participate in Social Roles and Activities (APSR; 4a, 6a, 8a), Sleep Disturbance (4a, 6a, 8a), and Fatigue (7a, custom short form). We used domain-specific patient global impression of change (PGIC) anchors with categories of “A lot better,” “A little better,” “About the same,” or “A little worse,” and “A lot worse”. Meaningful change thresholds for both categories of improvement and worsening were estimated with the median change and predictive modeling approaches.

Results: The absolute mean difference between meaningful change thresholds between within-domain short forms (e.g., absolute difference between Sleep Disturbance 4a, 6a, and 8a thresholds) were all < 1 T score point: Anxiety = 0.09 – 0.39; APSR = 0.04-0.12; Depression = 0.08-0.30; Sleep Disturbance = 0.19 – 0.41; Fatigue = 0.03. The maximum absolute difference between within domain short form thresholds was 1.4 T score points (Depression 6a vs. 8a for PGIC “A lot worse”), estimated with the median change approach. For the predictive modeling method, absolute mean differences were always near 0 (max difference = 0.04). There were no discernible patterns in meaningful change threshold differences between within domain short forms based on direction of change (improvement vs. worsening) or whether the “A lot” or “A little” PGIC anchor category was used. Moreover, meaningful change thresholds across domains using the same PGIC category were very similar (e.g. for “A little worse”, range = 5-6 T score points).

Conclusions: Practically speaking, the same meaningful change threshold range would be selected for different PROMIS short forms within a domain, regardless of method.