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*Assessing Change in Longitudinal PROMs Studies: Using IRT Polytomous Models to Detect and Adjust for Response Shift*

Assessing change in longitudinal PROMS studies can be a challenge. Patients' standards, values, or conceptualization of what the PROMs are intended to measure can change reflecting patient adaptation to the disease. As a consequence of this "response shift", observed patient's evolutions may thus not properly reflect true perceived health changes. Item Response Theory models relies on an underlying response model relating parameters characterizing the PROMS instrument to a latent parameter interpreted as the true individual value of the concept measured by the PROMs. A change in parameters related to the PROMS instrument might reflect response shift. We will describe how Item Response Theory models could be used to detect response shift and to measure true perceived health changes.