Patient-reported outcomes (PROs) in MS

PROs are important for both patients and HCPs as they may help:



Provide focus for clinical visits1



Provide patient perspectives on treatment success²



Engage patients in their own health care¹



Improve communication with patients³



PROs collect data on a patient's health status directly from the patient4,5



PROs are collected through various questionnaires, such as the established MSOOL-54 and the more recently developed PROMIS-MS, among others^{6-8,13}



Disability in MS is more than just EDSS^{9,10}



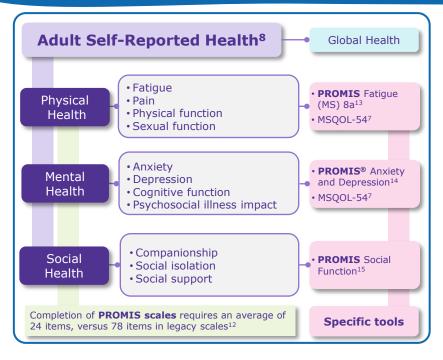
Even with EDSS scores of 0, patients may demonstrate subtle yet significant deficits in physical performance measures on high-challenge tests when compared with healthy individuals¹⁰



PROs may complement conventional clinical measures to allow for a more complete and patient-centric view of MS¹¹



- PROMIS is an online repository of PROs that enables precise measure of patientreported health status across various domains, including physical, mental, and social well-being16
- PROMIS MS involves using PROMIS's domains to measure the quality of life and symptoms in patients with MS, while reducing survey burden¹²





PROMIS MS can assess various dimensions, such as fatigue, pain, mobility, emotional distress, and cognitive function, all of which are commonly impacted by MS⁸



A study focused on patients with MS found that PROMIS tools effectively captured PROs¹⁷



A study examining the PROMIS Fatigue (MS) 8a showed that it was bidirectionally sensitive to both improvements and worsening of fatigue in patients with MS than traditional scales, detecting changes before clinical signs appeared¹³

EDSS, Expanded Disability Status Scale; HCP, healthcare professional; MS, multiple sclerosis; MSQOL-54, Multiple Sclerosis Quality of Life-54 questionnaire; PRO, patient-reported outcome; PROMIS, Patient-Reported Outcome Measurement Information System; RRMS, relapsing-remitting multiple sclerosis.

1. Lavalee DC, et al. Health Aff (Millwood). 2016;35:575-82; 2. van Munster CEP, Uitdehaag BMJ. CNS Drugs. 2017;31:217-36; 3. Jensen RE, et al. Med Care. 2015;53:153-9; 4. FDA. https://www.fda.gov/media/77832/download; 5. EMA. https://www.ema.europa.eu/en/documents/other/appendix-2guideline-evaluation-anticancer-medicinal-products-man_en.pdf; **6.** NIH Collaboratory Coordinating Center. https://rethinkingclinicaltrials.org/resources/patient-reported-outcomes-3/#fda-2009; **7.** Giordano A, et al. *Health Qual Life Outcomes*. 2021;19:224; **8.** Alonso J, et al. *Health Qual Life Outcomes*. 2013;11:210; **9.** Bayas A, et al. Mult Scler Relat Disord. 2022;68:14166; **10.** Krieger SC, et al. Mult Scler. 2022;28:2299-303; **11.** Brichetto G, Zaratin P. Curr Opin Neurol. 2020;33:295-9; **12.** Senders A, et al. Mult Scler. 2014;20:1102-11; **13.** Kamudoni P, et al. Mult Scler Relat Disord. 2022;66:104048; **14.** De Castro NFC, et al. Qual Life Res. 2020;29:201-11; **15.** Hahn EA, et al. J Clin Epidemiol. 2016;73:135-41; **16.** Cella D, et al. J Clin Epidemiol. 2010;63:1179-94; **17.** Greene N, et al. J Patient Rep Outcomes. 2023;7:61

