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Letter

Regarding the publication The Multiple Sclerosis Severity Score: Fluctuations and prognostic ability in a longitudinal cohort of patients with MS authored by RH Gross *et al*

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Dear Editors

Regarding the publication *The Multiple Sclerosis Severity Score: Fluctuations and prognostic ability in a longitudinal cohort of patients with MS*, authored by RH Gross et al.[1]

We agree with the authors that the Multiple Sclerosis Severity Score (MSSS) was devised as a descriptor of disease severity for groups of patients and was intended to be used for statistical comparisons between such groups, and thence also to be useful for stratification in clinical trials or just as a population disease severity descriptor.[2] Other researchers have made claims for it as a prognostic measure for individuals.[3,4]

Gross's paper states that the MSSS methodology assumes that a patient's MSSS decile will 'remain . . . stable'. While we did show correlations between the rankings of patients' disability at one time point and their rankings 15 years later, we made no such assumptions of its stability. Gross et al. then present data on a cohort of 122 patients with up to 25 years of follow-up, highlighting the instability of MSSS scores in these patients. We submit that there are methodological and statistical factors which have led to them overestimating this instability.

The most important methodological reason for fluctuation in individual MSSS in Gross's paper is that it appears that the authors included Expanded Disability Status Scale (EDSS) assessments at times of relapse. The 'baseline' MSSS was largely made at the 'initial visit' when the patient presented with symptoms, and it is likely therefore that they were in a relapse at that time. This would explain why more patients (32.8%) had 'better than expected' than 'worse than expected' (23.0%) outcomes, and why, of the 72% who deviated from their baseline MSSS, approximately 26% (reading from their Kaplan–Meier curve, Figure 3) deviated at or about their year 1 assessment. Also, recovery from relapses is evident from the leftward-pointing arrows (improving EDSS) in their Figure 2. Similarly, in Gross's paper, it is likely that some of the variation, where an individuals' MSSS was found to be higher at later assessments than expected from baseline, was due to them being assessed at times of later relapse. As explicitly stated in our paper, we made every effort to avoid incorporating EDSSs made at time of relapse.

Secondly there is the issue of the small proportion of patients that are followed up over the years which, especially as the cohort was fairly small to begin with, led to unsurprisingly wild fluctuations in mean MSSS. In spite of this the authors have chosen to highlight, for example, that (compared with the baseline mean MSSS of 3.93) the highest mean MSSS was 5.65 at 19 years' follow-up, which was based on the data from a handful of patients at most (Figure 4 shows only 14 patients followed up at 16 years). Similarly, examining the whole of the right side of the Kaplan–Meier plot (their Figure 3), shows that it is based on five or fewer patients.

We maintain therefore that the MSSS is more reliable than is portrayed in this paper. However, we would continue to support the use of the MSSS primarily as a tool for characterising groups of patients.

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Conflict of Interests

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