

Objective classification methods result in an increased proportion of secondary progressive multiple sclerosis in five patient registries

A. Glaser¹, L. Forsberg¹, A. Manouchehrinia¹, R. Ramanujam¹, T. Spelman¹,
P. Klyve¹, J. Drahota², D. Horakova³, H. Joensen⁴, M. Magyari⁴,
D. Ellenberger⁵, A. Stahmann⁵, A. Van Der Walt⁶, J. Rodgers⁷, R. Middleton⁷,
R. Nicholas⁸, V. Bezlyak⁹, N. Adlard⁹, T. Hach⁹, C. Lines⁹, J. Hillert¹

¹Karolinska Institutet/Stockholm/Sweden, ²Czech national multiple sclerosis patient registry ReMuS, IMPULS Endowment Fund/Prague/Czech Republic, ³First Faculty of Medicine, Charles University and General University Hospital in Prague/Prague/Czech Republic, ⁴Danish Multiple Sclerosis Center/Glostrup/Denmark, ⁵MS Forschungs- und Projektentwicklungs-gGmbH/Hannover/Germany, ⁶Monash University/Melbourne, VIC/Australia, ⁷Swansea University Medical School/Swansea/United Kingdom, ⁸Imperial College London/London/United Kingdom, ⁹Novartis Pharma AG/Basel/Switzerland

Disclosures



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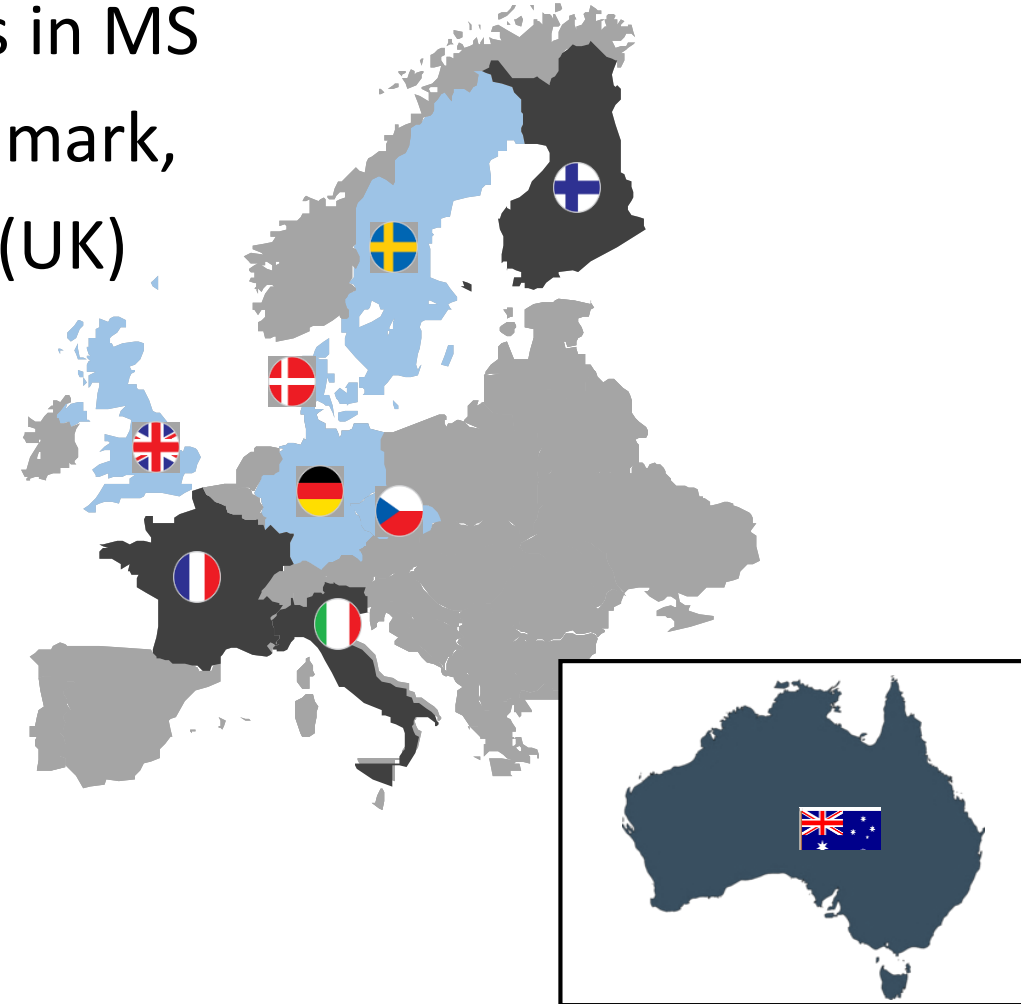
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The research collaboration network (RCN) conducts research on secondary progressive MS (SPMS). The current study was performed as part of this collaboration

SPMS is a research area that is attracting more attention as better treatment options are still needed for this patient group. The assignment of SPMS by clinicians can differ between countries and may be influenced by drug factors such as prescription guidelines, reimbursement issues and other societal limitations

We set out to compare the clinically assigned SPMS proportion to three objective SPMS classification methods in MS registries from the Czech Republic (CR), Denmark, Germany, Sweden and the United Kingdom (UK)

-  Participating in the current study
-  Participating in RCN



Participating MS registries

Country	Number of MS patients	Number of clinical RRMS / SPMS patients
Czech Republic	11,336	10,340 / 996
Denmark	10,255	8,666 / 1,589
Germany	23,185	19,574 / 3,611
Sweden	11,247	8,585 / 2,662
United Kingdom	5,086	3,344 / 1,742
Total	61,109	50,509 / 10,600

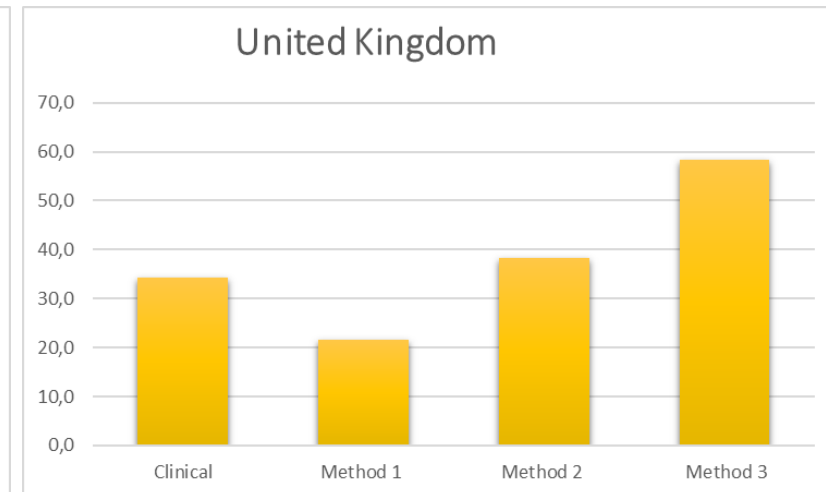
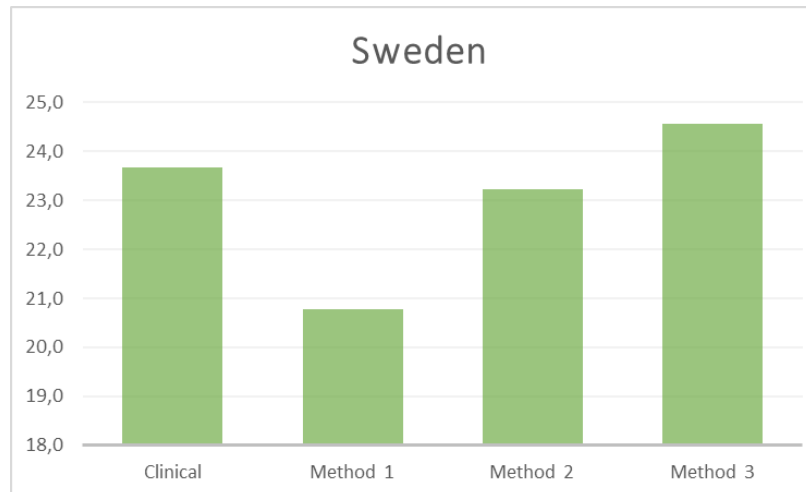
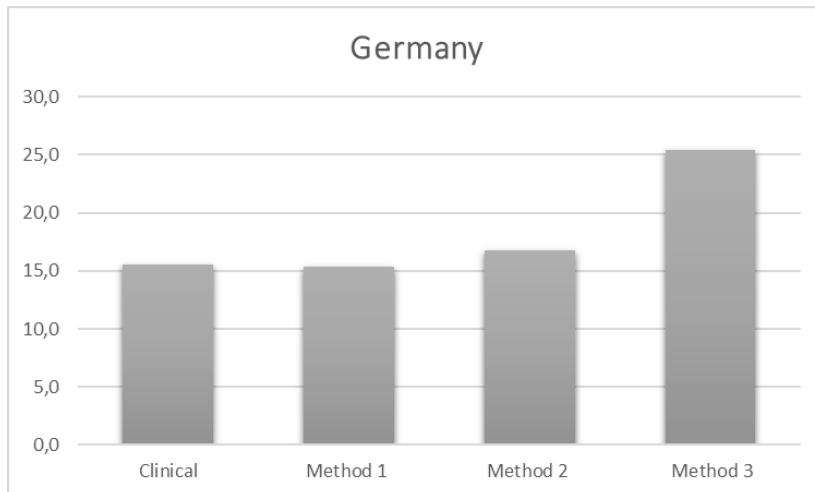
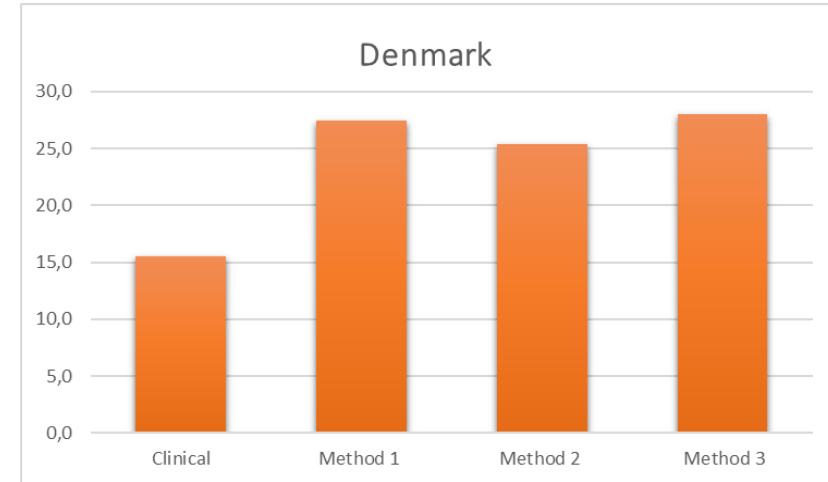
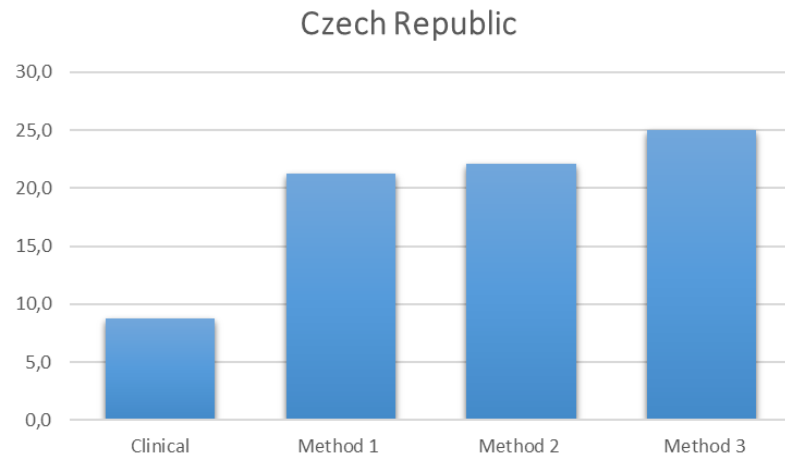
Inclusion criteria were patients with relapsing remitting (RR)MS or SPMS with age ≥ 18 years at the beginning of the index period (1 January 2017 – 31 December 2019). Index date was the visit date with the latest EDSS observation.

Classification methods and requirements (including modifications introduced in the current study)

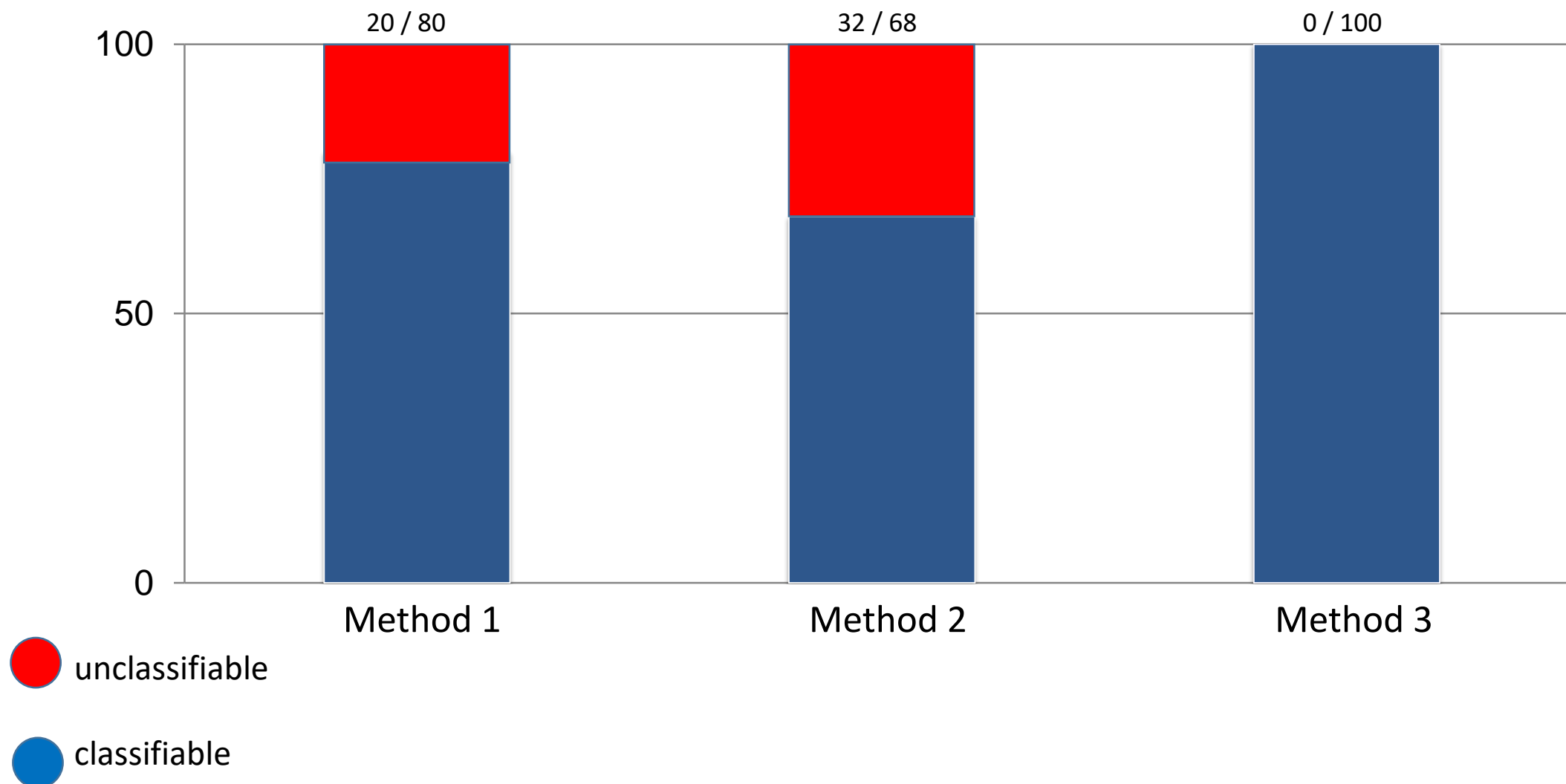
- Method 1:** Modified real world EXPAND criteria (Kappos et al, Lancet 2018:391; 1263-1273)
- Method 2:** The data-derived definition from Melbourne University without the pyramidal Functional Systems Score (Lorscheider et al, Brain 2016:139; 2395-2405)
- Method 3:** The decision tree classifier from Karolinska Institutet (Ramanujam, R. et al., 2020. medRxiv, 2020.07.09.20149674)

	Number of EDSS	Relapse free period	EDSS limit for conversion	Documented progression required	Age dependent	Pyramidal FS score
Method 1: RWE EXPAND	2	NO (original definition YES)	3	Δ EDSS = 1 at EDSS<6 Δ EDSS = 0.5 at EDSS \geq 6 Δ T =12-24 months Future EDSS \geq 3.0	NO	NO
Method 2: Melbourne	3	YES	4	Δ EDSS = 1 at EDSS<6 Δ EDSS = 0.5 at EDSS \geq 6 Confirmed EDSS \geq 3 months	NO	NO (original definition YES)
Method 3: Decision Tree	1	NO	3.5 - 6.5 depending on age	NO	YES	NO

Proportion $SP / (SP+RR)$ in percentage comparing clinical assignment to methods 1, 2 and 3



Proportion of unclassifiable / classifiable patients %



- The proportion of clinically assigned SPMS patients varies between MS registries. When applying the classification methods, the SPMS proportion generally increases but remains variable between registries
- Some of the classification methods have extensive requirements regarding data density, resulting in a considerable number of unclassifiable samples for some of the registries, which will influence the results
- Providing a classification method that depends on objective information could prove useful when attempting to estimate the proportion of SPMS patients in MS populations but the choice of method may depend on the data characteristics of the individual MS registry

This poster is part of a project that will also be described in two oral presentations

Validation of three Secondary Progressive Multiple Sclerosis classification methods in five registries within the SPMS Research Collaboration Network. L Forsberg et al, PS05.03 PS05 - Pharmacological management of progressive MS. Fri, September 11, 2020, 12:45 - 14:15; 1

Ongoing disease modifying treatment associated with mis-classification of secondary progressive as relapsing-remitting multiple sclerosis. J Hillert et al, PS05.05 PS05 - Pharmacological management of progressive MS. Fri, September 11, 2020, 12:45 - 14:15; 1