Treatment escalation in Secondary Progressive MS identified clinically and algorithmically in Relapsing Remitting (RR)MS

R Nicholas [1,2], RM Middleton [2], JA Witts [2], WJ Rodgers [2], J Hillert [3], A Stahmann [4], C Lines [5], D Horáková [6], M Magyari [7] RCN SPMS Research Group[8]

1. Imperial College Healthcare NHS Trust, London; 2. Population Data Science, Swansea University Medical School, Swansea, UK. 3. Department of Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden; 4. German MS-Register, MS Forschungs- und Projektentwicklungs-gGmbH, Hanover, Germany; 5. Novartis Pharma AG, Basel, Switzerland; 6. Department of Neurology and Center of Clinical Neuroscience, Charles University in Prague; 7. The Danish Multiple Sclerosis Registry, Department of Neurology, Rigshospitalet, Denmark; 8. The Register Collaboration Network SPMS Research Group..

Email: r.nicholas@imperial.ac.uk

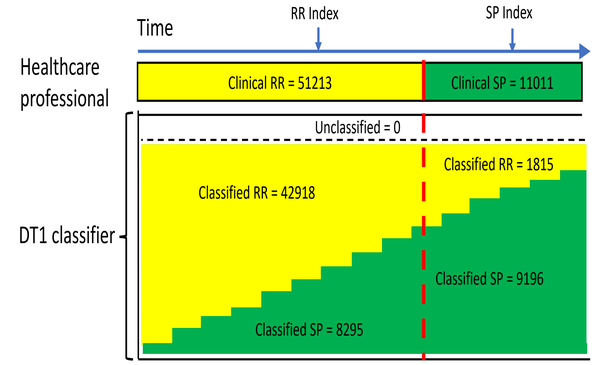
INTRODUCTION

- Objective algorithms (OA) are used to identify disease types eg relapsing remitting (RR) or secondary progressive (SP) MS based on objective findings such as EDSS and age.
- The DT1 classifier (Ramanujam, 2020), only requires one EDSS and age, to identify SPMS in those with clinically assigned (CA) RRMS. This has suggested that SPMS is under-diagnosed in clinical practice (Hillert et al., 2021). It is unclear if healthcare professionals (HCP)s are aware of this evolution. One way of determining if HCP are aware that the disease is worsening is to determine if therapy is escalated in response to clinical worsening with a shift to highly active (HA) disease modifying treatments (DMT).
- **Objective: Assess whether treatment intensity escalates as the disease advances from RRMS to OA-SPMS and from RRMS to CA-SPMS.**

METHODS

- MS registries in Czech Republic, Denmark, Germany, Sweden and UK were used.
- Active DMTs at the date of last visit were classified as highly active (HA) or not, and DMT usage prior to CA-SPMS or OA-SPMS classification.

Figure 1. HCP identification of clinical SP or RR MS numbers. Below the objective algorithm (OA) diagnoses using DT1. Unclassified=0 indicates that DT1 always classifies subjects. The steps indicate that classification is based on EDSS and age steps.



RESULTS

1. Subjects were classified according to the DT1 classifier (Ramanujam, 2020) in the total cohort from the five registries (Figure 1).

2. Treatment rates for clinical SP and RRMS are lower in the UK compared to other registries (Figure 2).

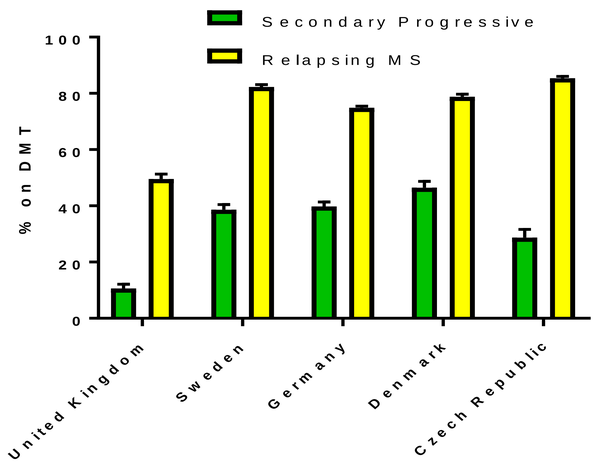
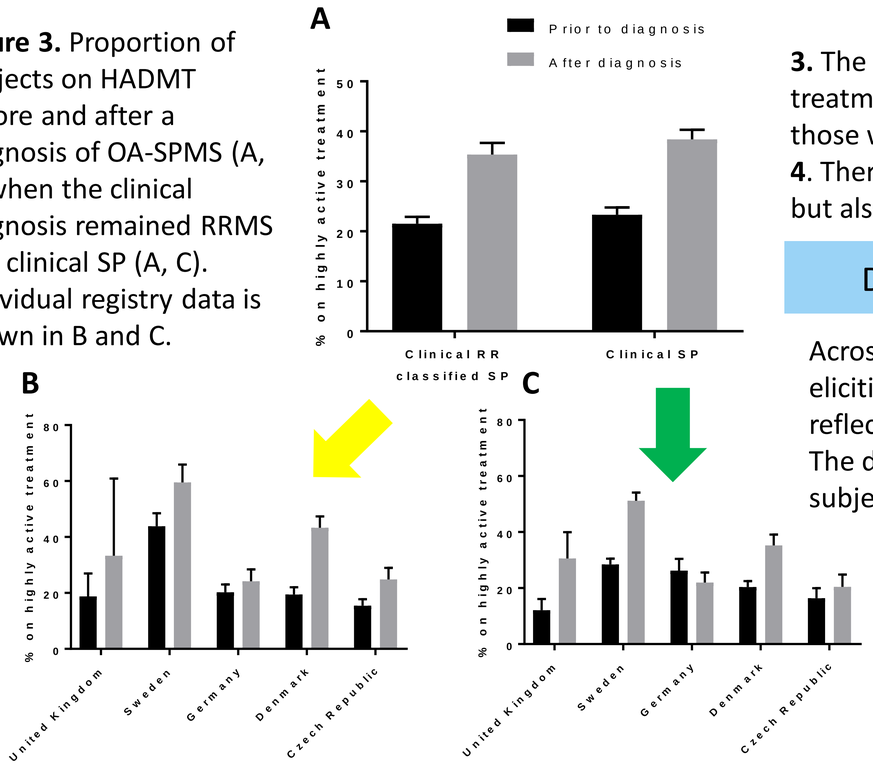


Figure 2. Proportion of RR and SP subject on DMTs in the 5 registries

Figure 3. Proportion of subjects on HADMT before and after a diagnosis of OA-SPMS (A, B) when the clinical diagnosis remained RRMS and clinical SP (A, C). Individual registry data is shown in B and C.



3. The proportion of those on DMTs who were on a highly active treatment before and after a diagnosis of clinical SP (Figure 3) and in those who were diagnosed by the OA. Eg HCPs were not aware.

4. There was an increase in use of HADMT after a clinical diagnosis but also after an OA diagnosis.

DISCUSSION & CONCLUSION

Across Europe the evolution to clinical SPMS via OA-SPMS is eliciting a consistent response from HCPs that is not initially reflected in a change of diagnosis.

The drivers of country variations in HADMT use in transitioning subjects should be explored further.

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References

1. Ramanujam R et al. Mult Scler. 2020: 1352458520975323.

2. Hillert J. et al. ACTRIMS 2020.