

# Challenges Experienced by Neurologists Internationally in the Individualization of Multiple Sclerosis Treatment

Sean M. Hayes, PsyD<sup>1</sup>, Mohammad Sharief, MD, PhD, FRCP<sup>2</sup>, Pamela Ng, MSc<sup>1</sup>  
<sup>1</sup>AXDEV Group Inc. Brossard, QC, Canada; <sup>2</sup>Colchester Hospital University, Colchester, Essex, UK

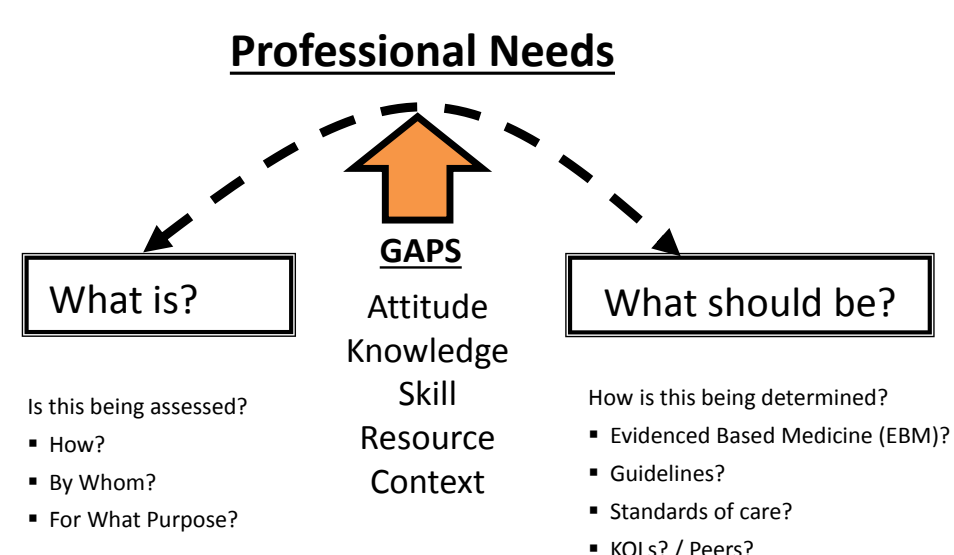
## A. Introduction

- Treatment decisions in Multiple Sclerosis (MS) are complex [1]
- Individualization of treatment is increasingly difficult with introduction of new MS therapies [2]

### Study Background

- Conducted in 6 countries
- Sample included Nurses, Neurologists, Radiologists, and Pharmacists

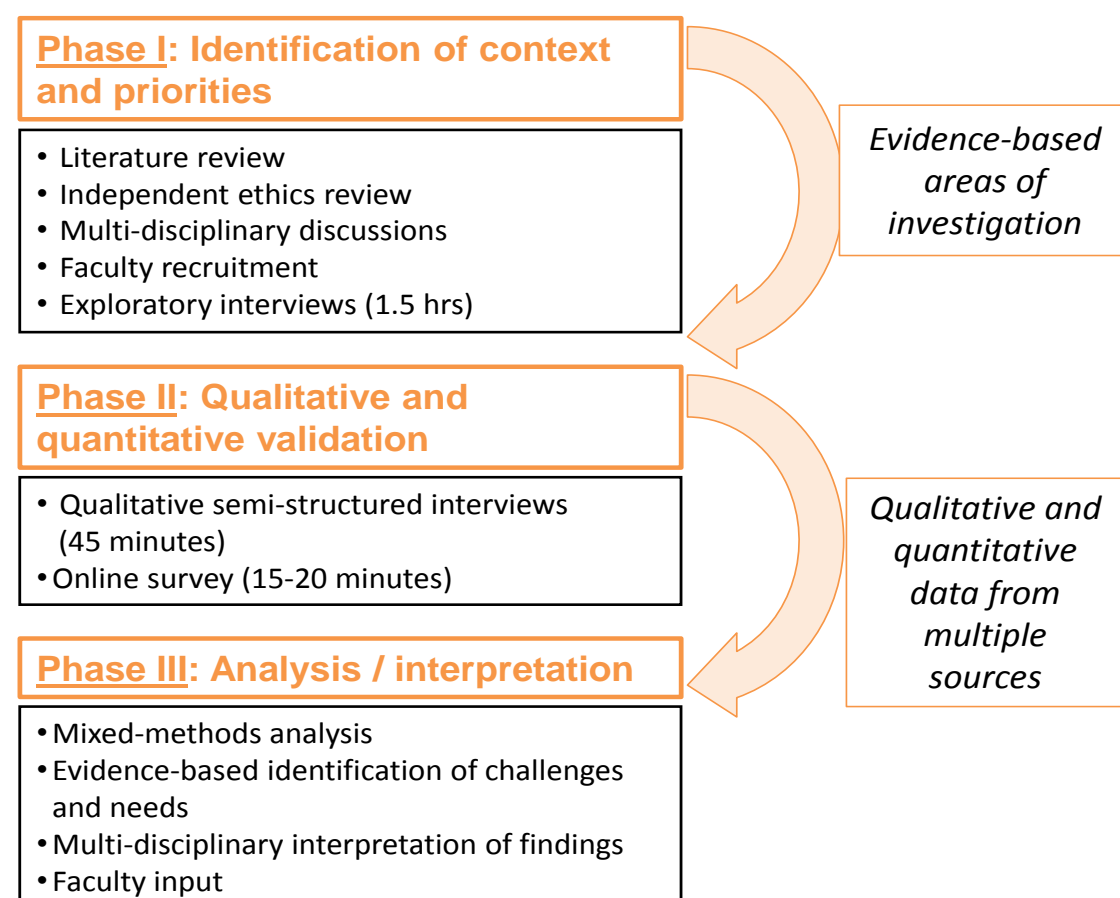
### Needs Assessments



## B. Objective

- Study objective was to better understand knowledge, skill, and confidence issues of providers involved in treatment & management of MS
- This poster highlights challenges experienced by Neurologists in individualization of MS treatment

## C. Methodology & Sample



## Analysis

- Qualitative data analyzed using thematic coding analysis
- Quantitative data analyzed using frequencies, and analyses of variance
  - Tahmane's T2 post-hoc tests were used to identify differences by country
- Qualitative and quantitative findings were triangulated to strengthen the trustworthiness of the findings

### Sample

Sample	
Total Neurologists	148
Gender n (%)	
Men	114 (77)
Women	34 (23)
Country n (%)	
Germany	22 (15)
Spain	22 (15)
France	23 (16)
United Kingdom	23 (16)
Italy	22 (15)
United States	36 (24)
Practice Setting n (%)	
Private	39 (26)
Community-based	38 (26)
Academic-based	70 (47)
Other	1 (1)
Years of Practice n (%)	
5-10 years	44 (30)
11-20 years	73 (49)
More than 20 years	31 (21)
Caseload n (%)	
5- 50 patients/yr	29 (20)
51-150 patients/yr	57 (39)
More than 150 patients/yr	60 (41)

## D. 7 Substantive Findings

Gaps related to:

- Precise diagnosis of MS
- Individualization of treatment**
- Combination and sequencing of treatment
- Management of QoL issues
- Monitoring patient status
- Managing psychosocial aspects of MS
- Patient communication and engagement

## Knowledge of MS Therapies

Almost half of Neurologists reported knowledge issues regarding new and emerging therapies

Please select what best describes your current level of knowledge	% who reported knowledge could be improved/not acceptable						Total
	GER (n:20)	SP (n:20)	FRA (n:21)	UK (n:21)	ITA (n:20)	USA (n:30)	
The new and emerging therapies	30%	40%	48%	43%	55%	50%	45%
The side-effects associated with each treatment option	50%	15%*	24%	43%	60%*	37%	38%
The risks and benefits of the disease-modifying agents available for MS	35%	15%	24%	29%	35%	30%	28%

Scale: Knowledge- Not acceptable, Could be improved, Acceptable  
 \*Indicates post-hoc significant difference (p<0.05)

*"There are simply an awful lot of options on the market, and new things are coming again and again, but of course nothing which is really leading and is really good, but you just have to weigh up what is right now for the patient, where do we start, with which therapy, directly onto the hard therapy, or do we first start a little more gently, so that's a challenge. Yes, of course, with this, with this multitude of therapy options."*

– Neurologist, Germany

## Individualization of Treatment Plan According to Disease Activity

Over half of Neurologists report issues in their skill to individualize treatment plans to disease activity

Skill: Individualizing the treatment plan according to disease activity in each patient	GER (n:20)	SP (n:20)	FRA (n:21)	UK (n:21)	ITA (n:20)	USA (n:30)	Total
% reporting skill could be improved/not acceptable	60%	55%	67%	62%	65%	43%	58%
% reporting low to moderate confidence	45%	40%	52%	38%	35%	23%	36%

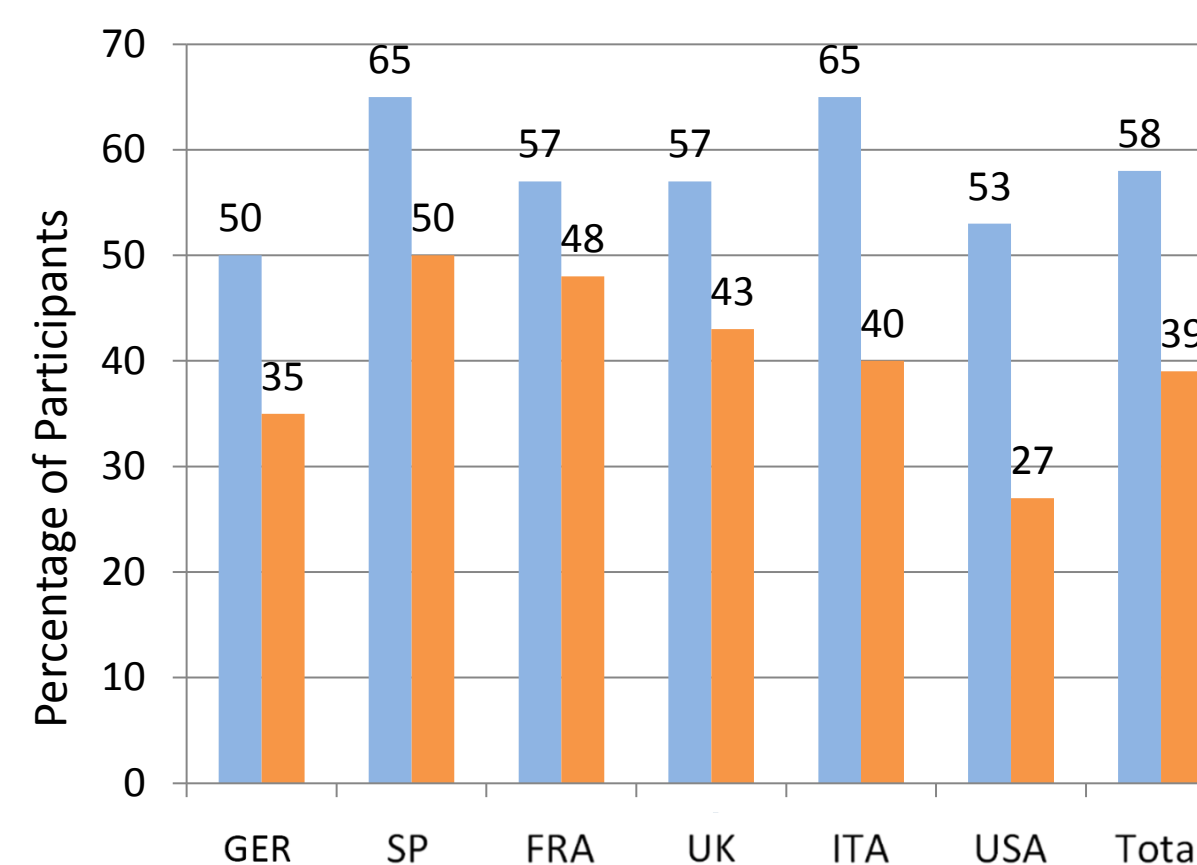
Scale: Skill – Needs Improvement, Needs minor improvement, Optimal  
 Confidence- 1-Low to 5-Optimal

*"Identifying patients who may respond to specific treatment is also a challenge (...) We don't have any specific indicators or markers as to who's going to respond best to the available treatment. So we offer the treatments to individuals and then hope for the best. (...) So there is a tricky path to follow in terms of hoping for a positive result whilst at the same time avoiding some serious adverse effects."*

– Neurologist, United Kingdom

## Integrating Patient Goals in Treatment Plan

Neurologists across countries reported skill and confidence issues to integrate patient goals in the treatment plan



Scale: Skill – Needs Improvement, Needs minor improvement, Optimal  
 Confidence- 1-Low to 5-Optimal

## Integrating Patient Preferences in Treatment Plan

Neurologists reported importance of discussing patient preferences against their recommendations but low confidence to do so

Discussing patient preferences against my recommendations	GER (n:20)	SP (n:20)	FRA (n:21)	UK (n:21)	ITA (n:20)	USA (n:30)	Total
% who reported Low to Moderate Confidence	60%	65%	62%	58%	45%	35%	52%
% who reported importance of topic	75%	90%	62%	86%	80%	87%	80%

Scale: Confidence- 1-Low to 5-Optimal  
 Importance Yes/No

## E. Discussion

- The challenges identified in this study were common to all countries, with some nuances.
- Knowledge, skill & confidence gaps could impact Neurologists ability to provide personalized care to their patients

### Implications

- Findings could help Neurologists:
  - Self-reflect on their practice
  - Identify unperceived need(s) for improvement regarding clinical decision-making
  - Seek potential educational solutions to fill the identified gap(s)
- Results could inform design of education initiatives for Neurologists to enhance ability to tailor treatment for each patient

## References

- Derfuss T. Personalized medicine in multiple sclerosis: hope or reality? *BMC Medicine* 2012;10:116.
- Heesen C, Solari A, Giordano A, Kasper J, Kopke S. Decisions on multiple sclerosis immunotherapy: New treatment complexities urge patient engagement. *J Neuro Sci* 2011; 306:192-197
- Moore DE. Needs assessment in the new health care environment: combining discrepancy analysis and outcomes to create more effective CME. *J Contin Educ Health Prof* 1998;18:133-41.

**Study supported by:** This study was financially supported with education research funds from Merck KGaA, Darmstadt, Germany. Merck KGaA, Darmstadt, Germany reviewed the poster but final decision regarding the poster's content was the responsibility of the authors; thus, the views and opinions described in the poster reflect solely those of the authors.