

# DXT53 MS CLINICAL PHENOTYPES: USING TECHNOLOGY TO EDUCATE PATIENTS AND OPTIMIZE TREATMENT

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## BACKGROUND:

An increased understanding of multiple sclerosis (MS), its pathology, and its clinical course have led to more accurate MS clinical phenotype descriptions.<sup>1</sup> The evolution of these clinical phenotype descriptions for relapsing and progressive forms of MS by the MS Phenotype Group, the entry of new FDA-approved MS treatments, and new practice guideline recommendations for disease-modifying therapies have delineated optimal treatments for each clinical phenotype.<sup>1,3</sup> This has enhanced the clinician's ability to predict the clinical courses of MS and outcomes, and formulate treatment strategies that improve outcomes.

The Multiple Sclerosis Association of America (MSAA) and @Point of Care have collaborated to develop complementary apps for use by patients and their clinicians that facilitate sharing of data: *My MS Manager*<sup>TM</sup>, a HIPAA-compliant patient app, and Multiple Sclerosis @Point of Care, a clinician app. It was important to enhance the *My MS Manager*<sup>TM</sup> app to provide education addressing MS clinical phenotypes and their implications, and a field for patients to enter their phenotype.

## OBJECTIVE:

Encourage MS patients to know their clinical phenotype, clinical course, and implications for treatment for discussion with their clinician and caregivers.

## METHODS:

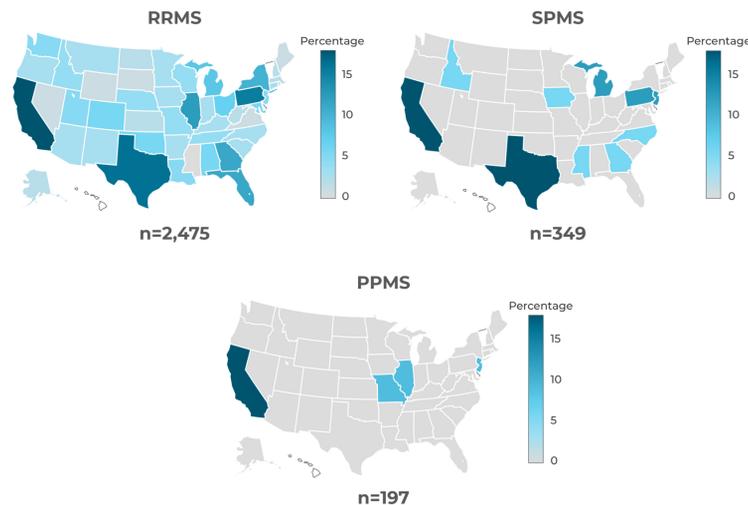
@Point of Care and the MSAA, who collaborated in the development of apps that link MS patients with their clinicians, further collaborated on a clinical phenotype program that addressed the following:

- Enhance *My MS Manager*<sup>TM</sup> patient app to include fields for the collection of clinical phenotypes to assess how many did/did not know their clinical phenotype and evaluate other patterns, including treatment by clinical phenotype
- Provide patient video segments to increase patients' awareness about MS and its symptoms, its diagnosis, the various MS clinical phenotypes and why it is important to know their clinical phenotype, FDA-approved treatment options for the various clinical phenotypes, relapse management, wellness tips, and how MSAA can help
- Develop a clinician video, in support of clinician-patient phenotype discussions, providing awareness and importance of MS clinical phenotypes and optimal treatment strategies based on guideline recommendations for the various MS clinical phenotypes
- Determine trends in this analysis by MS clinical phenotype regarding
  - Geographic distribution
  - Age of those who did/did not know their clinical phenotypes
  - Ratio of males to females for the various clinical phenotypes
  - Top 2 video segments watched by clinical phenotype
  - Utility of *My MS Manager*<sup>TM</sup> patient app notes for tracking patient journey

## RESULTS:

### GEOGRAPHIC DEMOGRAPHICS BY MS PHENOTYPE

In this analysis, the geographic distribution of patients with MS utilizing the *My MS Manager*<sup>TM</sup> patient app shows a geographic shift that corroborates findings in a recent peer-reviewed publication<sup>4</sup>

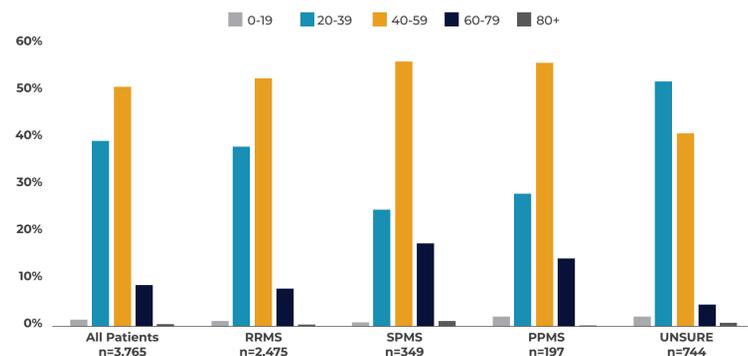


#### Implication:

- MS is increasingly identified in geographic locations that were less commonly affected in the past (thought to be due to early migration and new environment influence, before age 15, leading to MS liability more similar to that of the area to which they migrated rather than genetic makeup)

### AGE DEMOGRAPHICS BY MS PHENOTYPE

The majority of MS patients are between Ages 40-59. 20% (744) of these patients with MS did not know their clinical phenotype, and those unsure of their phenotype were younger (20-39 years).

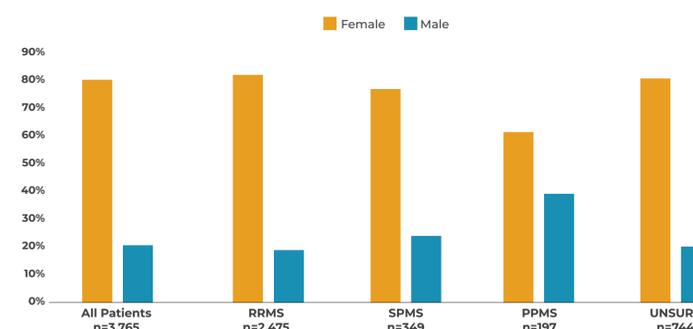


#### Implication:

- Patients, especially those younger, need to understand the importance of knowing their clinical phenotype and its implications for long-term treatment
- Informed patients who know their clinical phenotype are better able to understand their disease course

### GENDER DEMOGRAPHICS BY MS PHENOTYPE

Although there are >3 times as many females to males for most MS clinical phenotypes in this analysis, there are 1.5 times as many females to males for patients with the PPMS clinical phenotype

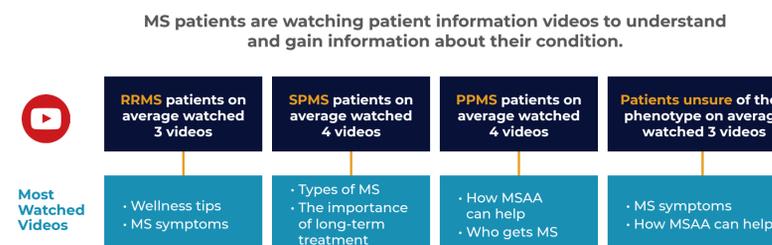


#### Implication:

- The ratios of females:males with RRMS, SPMS, and PPMS in our analysis are similar to those reported in the MSBase Registry<sup>5</sup>
- To improve patient outcomes, both females and males with MS need to be diagnosed and treated as early as possible
  - Although females are at higher risk for developing MS (RRMS, SPMS, and PPMS) and need to be diagnosed and treated as early as possible, males with RRMS and SPMS reach disability milestones sooner than females and do not recover as well as females from initial disease relapse
  - Males with PPMS also accumulate disability more rapidly than females and are twice as likely to deteriorate than females over a period of 10 years; clinicians need to identify, diagnose, and treat these patients as early as possible since there is an FDA-approved therapy for PPMS—ocrelizumab<sup>5</sup>

### VIDEO PARTICIPATION BY MS PATIENT

The top 2 videos watched by MS patients varied by clinical phenotype, reflecting different issues and information needed by phenotype



#### Implication:

- Patients want to gain insights into their MS and clinical phenotypes; videos selected varied by phenotype and associated concerns
- Informed patients are empowered to discuss their MS and MS treatment with their clinicians and determine therapies that are optimal for their clinical phenotype

### REPORTED UTILIZATION OF MS PATIENT APP

Of the patients in this analysis who filled in their clinical phenotype, many demonstrated ongoing usage of the *My MS Manager*<sup>TM</sup> patient app notes for tracking their MS patient journey

Phenotype	RRMS	SPMS	PPMS	Unsure
# patients	578	66	30	168

## CONCLUSIONS:

Findings for those patients with MS who filled in their clinical phenotype on the *My MS Manager*<sup>TM</sup> patient app

- 20% (744) of these patients did not know their clinical phenotype
- Ratios of females:males with RRMS, SPMS, and PPMS in our analysis were similar to those reported in the MSBase Registry
- The top 2 video segments watched by patients with MS differed by clinical phenotype
- Patients used the *My MS Manager*<sup>TM</sup> patient app on an ongoing basis to track their MS journey

The *My MS Manager*<sup>TM</sup> patient app facilitates MS patients' ability to record their clinical phenotype, access educational videos—including those addressing phenotype, and empower them to better understand MS phenotypes and implications for treatment choices for discussion with their clinicians. This will ensure optimal treatment choices.

## REFERENCES:

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4. Hawkes CH, Giovannoni G, Lechner-Scott J, Levy M, Waubant E. Multiple sclerosis and migration revisited. *Mult Scler Relat Disord*. 2019 Aug 1 [Epub ahead of print] [Abstract](#)
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