

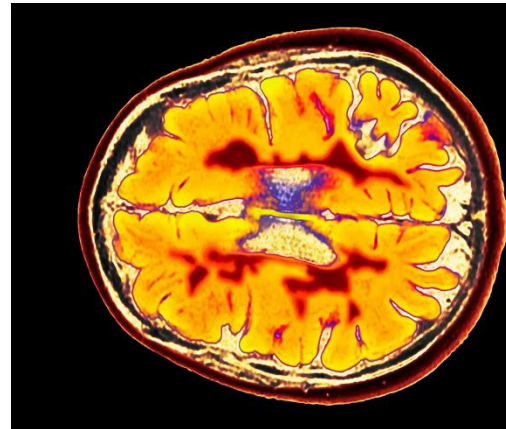
USE AND PRESCRIBING OF DISEASE MODIFYING AGENTS IN PATIENTS WITH MULTIPLE SCLEROSIS BASED ON PAYER TYPE AND PRESCRIBERS' SPECIALTY

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BACKGROUND

- Multiple sclerosis is an inflammatory, demyelinating, autoimmune disease of the central nervous system and is the second most common cause of neurologic disability in young adults, after trauma.¹
- Disease-Modifying Agents (DMA) have been discovered and approved for patients with relapsing remitting multiple sclerosis (MS) and clinically isolated syndrome.²
- Insurance status of patients and prescriber specialty can influence their prescribers' clinical decision making.
- There are limited studies on the prescribing patterns of DMAs based on payer type and prescribers' specialty



OBJECTIVE

To determine the use and prescribing pattern of DMAs in MS patients based on payer type and prescriber's specialty

METHODS

Study design

- This was a retrospective cross-sectional study.

Data Collection/Inclusion criteria

- This study utilized the 2007-2016 National Ambulatory Medical Care Survey (NAMCS) data.
- The study sample included office visits by adults with a primary diagnosis of MS (identified by International Classification of Disease [ICD-9/10-CM])

Statistical analysis

- SAS programming was used for descriptive weighted analyses to assess patients' characteristics and DMA use in MS.
- The multivariable logistic regression model was applied to examine the payer type and prescriber's specialty variation in DMA use/prescribing in MS after adjusting for other factors.

RESULTS

Table 1: Sample characteristics of patients with multiple sclerosis in the NAMCS database (07-16)

Characteristics		ALL (Weighted)	DMA	NO DMA	P-value
		11.75 million			
		Frequency in million (%)	Frequency (%)	Frequency (%)	
Age	18-44	4(34.05)	1.86(15.91)	2.13(18.14)	0.04**
	45-64	6.32(53.81)	2.55(21.75)	3.77(32.06)	
	>=65	1.43(12.14)	0.40(3.44)	1.03(8.70)	
Race/Ethnicity	White Non-Hispanic	9.54(81.22)	3.62(30.79)	5093(50.44)	0.03**
	Black Non-Hispanic	0.96(8.21)	0.55(4.64)	0.42(3.57)	
	Hispanic	1.12(9.57)	0.61(5.20)	0.51(1.14)	
	Non-Hispanic Others	0.12(1.00)	0.055(0.46)	0.063(0.53)	
Year	2007-2010	5.01(46.05)	1.44(13.23)	3.57(32.82)	0.27
	2011-2013	2.16(19.85)	0.57(5.24)	1.46(14.61)	
	2014-2016	3.71(34.10)	1.41(12.96)	2.30(21.14)	
Payer Type	Private Insurance	6.07(51.69)	2.58(21.93)	3.50(29.76)	0.44
	Medicare/Medicaid	4.82(41.00)	2.00(17.04)	2.81(23.96)	
	Others	0.86(7.31)	0.25(2.13)	0.61(5.18)	
Physician Specialty	Neurologist	4.94(42.13)	2.90(24.72)	2.12(17.41)	<0.001**
	Non-Neurologist	6.79(57.86)	1.93(16.42)	4.86(41.45)	

Chi-square test was used to obtain the p-values that indicate statistical significance for the association between baseline characteristics and DMA use

Figure1: DMA prescriptions by year, specialty, and payer type (Weighted Frequency)

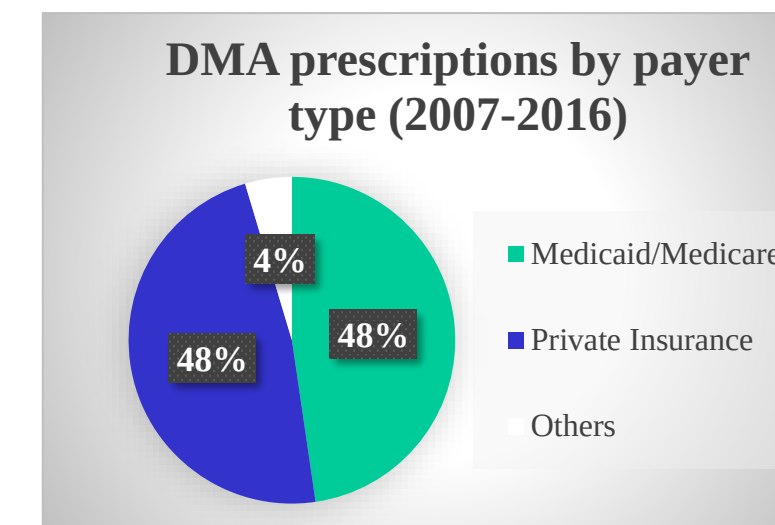
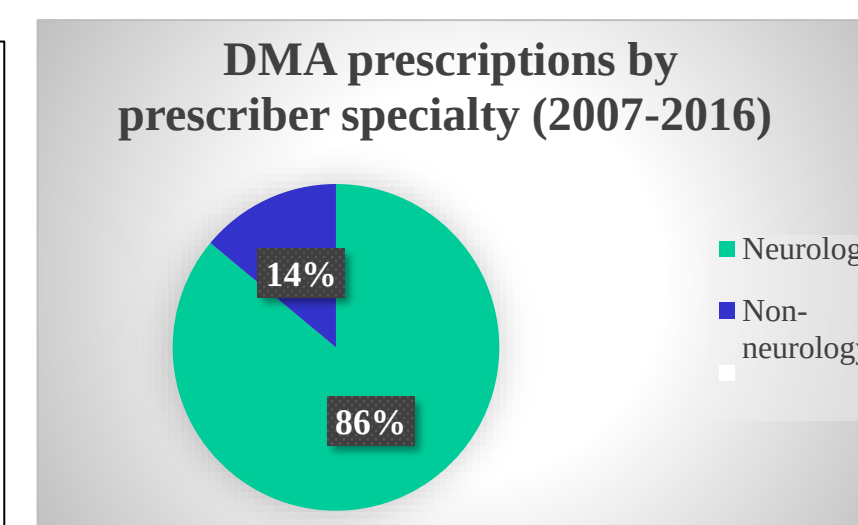
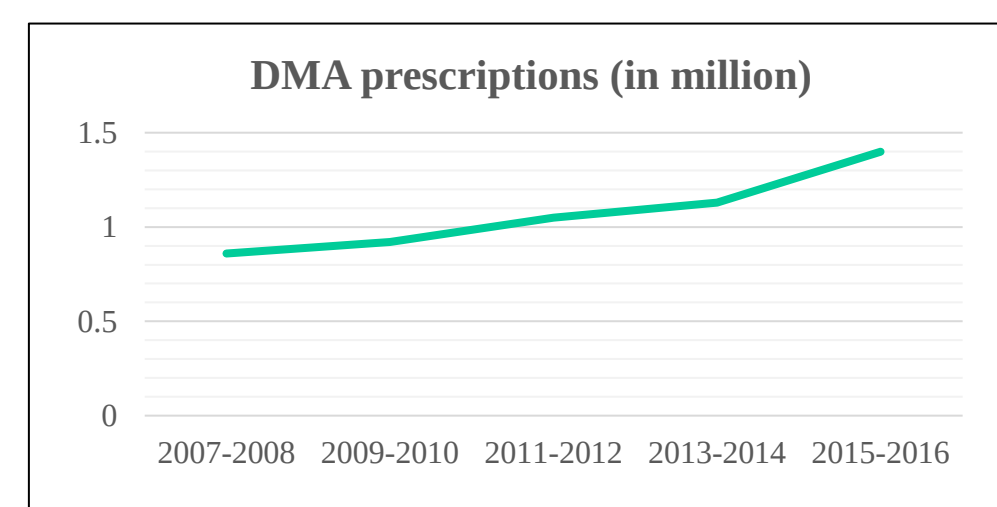


Table 2. Factors associated with DMA prescription

Factors		Adjusted Odds Ratio (AOR)	95% Confidence Interval		P-value
			Lower	Upper	
Age	18-44	Reference	Reference	Reference	Reference
	45-64	1.25	0.89	1.75	0.25
	>=65	0.16	0.08	1.32	0.15
Payer Type	Private Insurance	Reference	Reference	Reference	Reference
	Others	0.44	0.22	0.88	<0.0001*
	Medicare/Medicaid	2.04	1.34	3.11	<0.0001*
Physician specialty	Non-Neurology	Reference	Reference	Reference	Reference
	Neurology	37.87	22.87	62.71	<0.0001*

Multivariable logistic regression model was used to obtained the adjusted odds ratios and p-values

CONCLUSIONS

- An increasing trend of DMA prescription use in the years of analysis
- For our period of analysis, prescribers in neurology specialty are more likely to prescribe a DMA to MS patients than those in non-neurology specialties.
- In addition, Medicare/Medicaid beneficiaries are more likely to be prescribed DMA than the other insurance types. These findings are mostly exploratory.
- Future studies may explore other factors associated with DMA prescription trends such as regulatory changes and DMA characteristics(e.g., dosage forms)

REFERENCES

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- 2 Kobelt, G., Thompson, A., Berg, J., Gannedahl, M., & Eriksson, J. (2017). New insights into the burden and costs of multiple sclerosis in Europe. *Multiple Sclerosis*, 23(8), 1123–1136. <https://doi.org/10.1177/1352458517694432>