How Disease Modifying Therapy Utilization in Multiple Sclerosis is influenced by insurance and out-of-pocket cost in US adults : A summary of recent literature

Abstract # 5684
Poster Code: PCR217

Divya Jain, PharmD, UW CHOICE Postdoctoral Fellow, David Veenstra, PharmD, PhD, Aasthaa Bansal, PhD

THE CHOICE INSTITUTE
School of Pharmacy

Background

Sub-optimal adherence to disease modifying therapies (DMTs) in Multiple Sclerosis (MS) is well known. However, how insurance and out-of-pocket (OOP) cost impacts utilization of DMTs overall has been sparsely and heterogeneously studied.

Research Objective

Summarize recent literature on barriers to access, specifically insurance and OOP cost, to DMTs for patients with MS in order to surmise actionable outcomes

Methods

Targeted literature review

Key inclusion criteria:

- Adult US patients with MS
- Patients either currently on or initiating DMT following January 2015
- Discussion of Barriers to Access and it's impact on DMT Utilization in patient with MS

Search Terms

- ("barriers to access*" [ti] OR ("access" AND "barriers"[tiab]) OR "barriers and access" [tiab] OR "access to therapy" [tiab] OR "finan* burden" [ti] OR "out of pocket" [ti] OR "oop" [ti] OR "insurance" [tiab] OR "pharmacy access" [tiab] OR "spatial access"[tiab] OR "spatial barriers" [tiab] OR "geograph* access" [tiab] OR "geograph* barriers" [tiab] OR ("urban" AND "rural" [tiab]) OR "urban" [ti] or "rural" [ti]OR "urban access" [tiab] OR "urban barriers"[tiab] OR "rural access" [tiab] OR "rural barriers" [tiab] OR "physical barriers" [tiab] OR "affordability" [tiab] OR "provider education" [tiab] OR "disease modifying therapy access" [tiab] OR disease modifying treatment access [tiab]) AND ("multiple sclerosis" [ti] OR "RRMS" [ti]) NOT pediat*

- Search strategy included searching review articles for citations

- Database: PubMed

Results

We identified 10 total studies with key exclusion criteria visualized in Figure 1. Key characteristics of these studies are displayed in Table 1. Main points about the effect of OOP cost on DMT initiation and adherence are summarized in Figure 2. Figure 3 summarizes the differences between public (Medicare and Medicaid) and commercial insurances when comparing initiation, adherence and overall DMT usage in patient with MS.

Figure 1: PRISMA FLOW Diagram

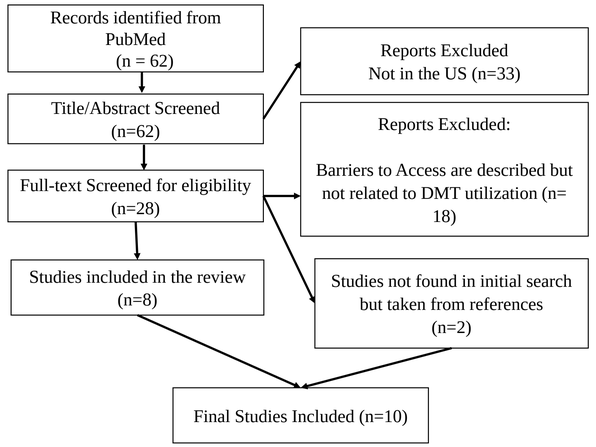
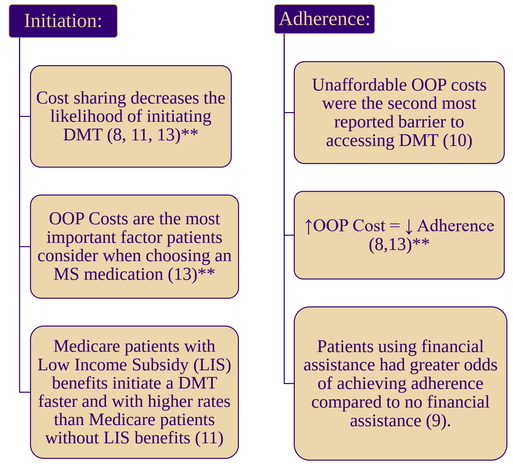


Figure 2:OOP Costs and impact on DMT initiation and adherence



**Statement based in part on summary from review

Figure 3: How Insurance impacts DMT utilization (initiation, adherence and utilization)

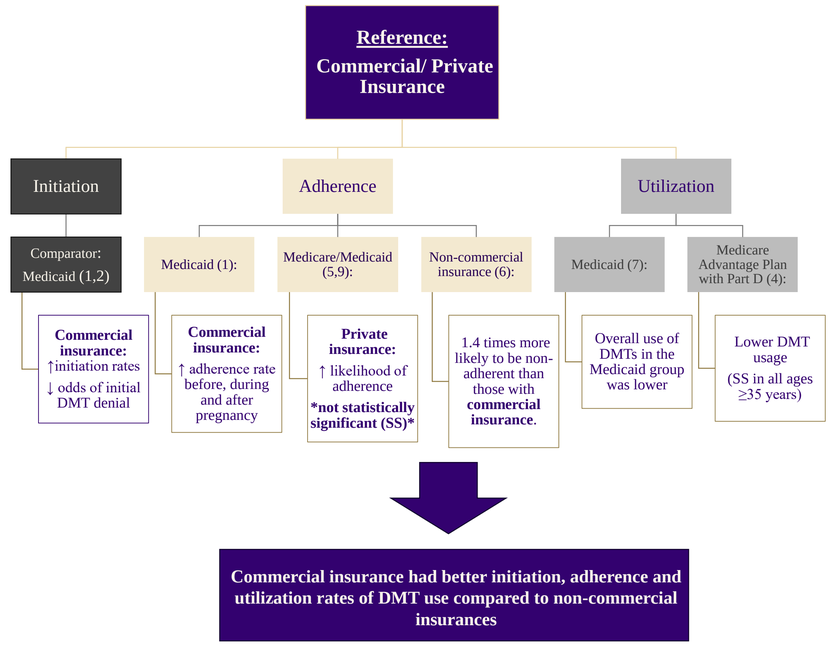


Table 1: Included Studies and Key Characteristics

Author (year published)	Bove (2024)	Mizell (2024)	Cisternas (2021)	Zuckerman (2023)	Livingston (2016)†	Wang (2016)	Banks (2020)†	Simacek (2018)	Hartung (2020)	Brouwer (2021)
Study Design	Retrospective, Observational	Retrospective Cross -Sectional	Retrospective, Cross – Sectional	Multi-site, prospective, cohort	Retrospective, Claims-Based Analysis	Cross-Sectional Survey	Single-Center, Retrospective Cohort Study	Mixed Methods Study	Retrospective, Cohort Study	Retrospective Observational Cohort
Patient Population	Females; 18-55	Newly diagnosed patients	commercial and MAPD enrollees with evidence of MS	adult patients from four health-system specialty pharmacies with ≥3 fills of a self-administered DMT for MS	18 years or older, had at least 1 ICD-9-CM code for MS (340.xx)	participants in the North American Research Committee on MS registry	pwMS who filled ≥3 DMT prescriptions from Vanderbilt Specialty Pharmacy	US-based adults self-reporting Relapse Remitting MS	Medicare patients with at least one inpatient or two outpatient diagnostic claims for MS	PwMS in a specialty pharmacy program
Sample size, N	944	52	28,427	968	19,984	6,662	653	507	39,661	789
Exposure	Insurance	Insurance	Insurance	Insurance	Insurance	Insurance	Both	OOP Cost	OOP Cost	OOP Cost
Outcome	Initiation & Adherence	Initiation	Prevalence	Adherence	Prevalence	Prevalence	Adherence	Adherence	Initiation	Adherence
Result	Commercial insurance had higher utilization rates than Medicaid (40.4% vs 25.4%) as well as higher rates of initiation and adherence	Medicaid had higher odds of initial prior authorization denial than commercial insurance (OR 4.51)	Commercial insurance had higher prevalence of DMT use compared to Medicare Advantage with Part D (MAPD) patients (75% vs. 55%)	Commercial insurance had better persistence than Medicare (the differences were not statistically significant (SS))	Overall use of DMTs in the Medicaid group was lower than the commercial patient group (32.5% vs. 52.1%)	the odds of not taking DMTs were higher for those with only public insurance compared to those with only private insurance (OR 1.75)	Insurance: federally-funded insurance had lower odds of persistence than commercial insurance (OR 0.64, not SS) OOP Cost: > $0 had lower adherence (OR 0.48)	OOP Cost was an issue for roughly 30% of responders and half of those responders did not take their medication during that time	Patients with full LIS coverage remained significantly more likely to initiate a DMT in their year after index diagnosis than those without full LIS coverage (HR 1.40)	Patients using patient assistance programs (PAPs) had increased probability of a drug claim in a given month (1.9%), but this finding was not SS

Conclusions

Summary

1. Commercial insurance had better initiation, adherence and usage of DMTs compared to other insurances
2. Higher OOP Cost was associated with lower adherence and initiation
3. Cost-sharing was associated with delayed initiation and decreased adherence
4. Financial assistance, either in the form of drug manufacturer patient assistance programs or grant funding, helps patients adhere to their medications

Implications

- Research: Conduct analyses into why commercial insurances have better DMT utilization than non-commercial insurances
- Drug manufacturers: Connect with specialty pharmacies & Maintain patient assistance programs
- Payors: Minimize cost-sharing and documentation requirements for patients diagnosed with MS

Abbreviations: Multiple Sclerosis = MS; Disease Modifying Therapy = DMT, Out-Of-Pocket = OOP, Statistically significant = SS; Medicare Advantage with Part D = MAPD

No funding was provided for this study
Divya Jain is supported by a Genentech-sponsored fellowship
Aasthaa Bansal is supported in part by a Genentech-sponsored training program
David Veenstra is supported in part by a Genentech-sponsored training program and has served as a consultant to Genentech.

References and Contact