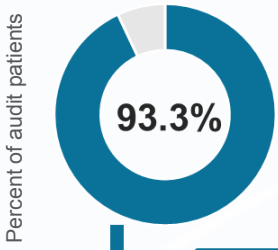
spherix GLOBAL INSIGHTS

SpotLight

RealWorld Dynamix™: DMT New Starts in MS (US) 2019

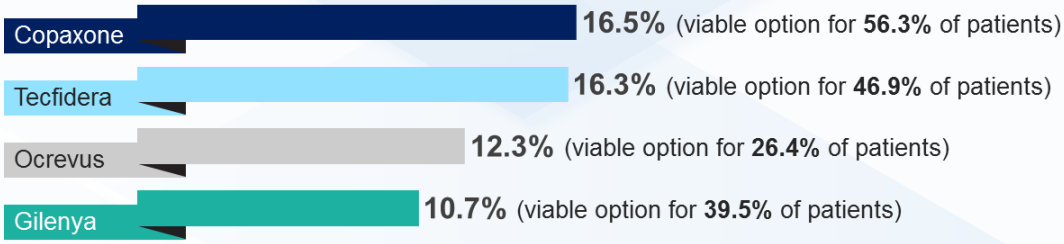
In the majority of first-line brand selection processes (n=1,059), the neurologist communicated to the patient a best DMT recommendation in addition to other viable options. When that occurred, the recommended option spanned across DMT class types, with long-term prognostic profile having a significant influence on brand recommendation.

Percent of First-Line Patients Who Were Given a Top Recommended DMT by Neurologist



78% of patients started the top recommended DMT

Leading Recommended First-Line DMT Options



✓ **Favorable** prognostic profile favors Copaxone and Tecfidera

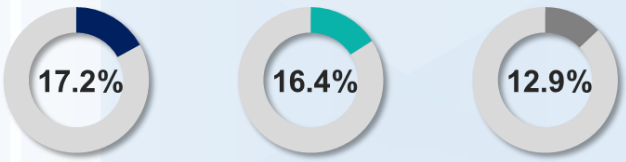
✗ **Unfavorable** prognostic profile favors Ocrevus and Tysabri

Almost one-quarter of patients were not prescribed the neurologists' top recommended DMT. Insurance formulary issues or denials were commonly the obstacle to patients starting on neurologists' preferred therapy. First-line Copaxone, Gilenya, and generic GA were augmented by these cases.

Percent of First-Line Patients That Did Not Start on Recommended DMT Due to Insurance Formulary Issues or Denials

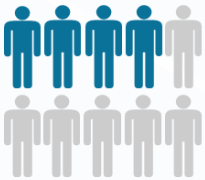
Percent of audit patients

Most Common DMTs Prescribed Instead of Top Recommended DMT



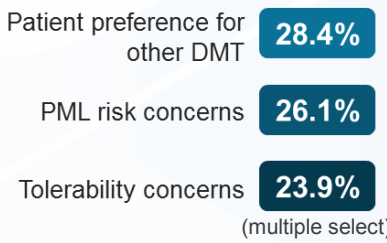
Patient refusal/preference for a different DMT was the major reason for not initiating the neurologist's top recommended DMT in the remaining cases. First-line Copaxone and Tecfidera shares benefited when patient influence drove brand selection.

Percent of First-Line Patients That Did Not Start on Recommended DMT Due to Patient-Related Issues



Percent of audit patients

Most Common Patient-Related Issues



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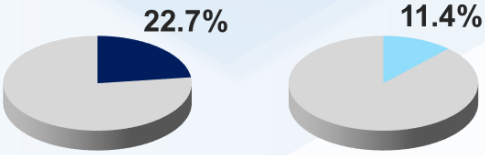
Most Common DMTs Prescribed Instead of Top Recommended DMT



As an example of the impact non-initiation of a neurologist's top recommended DMT can have on a brand, Tecfidera lost out on potential first-line share due to patient's tolerability and safety concerns overriding neurologists' recommendations.

15% of Tecfidera top recommendation cases were **not initiated**

Tecfidera (dimethyl fumarate)

Percent of First-Line Patients That Did Not Start on Tecfidera Due to Patient-Related Issues

Most common patient-related issues:

Patient preference for other DMT: **40%** → **33%** went on to start Copaxone

Tolerability concerns: **33%**

PML risk concerns: **27%**

Other safety concerns: **27%**

COPAXONE® (glatiramer acetate injection)

RealWorld Dynamix™: DMT New Starts in Multiple Sclerosis (US) blends attitudinal and demographic physician survey data with patient record data to uncover how practice type and setting and certain beliefs influence the treatment pathway and to understand how marketed DMTs are being used by physicians and for what patient types. For more information contact: info@spherixglobalinsights.com

RealWorld Dynamix

Exploring the Patient Journey

DMT New Starts in Multiple Sclerosis (US)

OVERVIEW

The US multiple sclerosis (MS) market has become fiercely competitive with the introduction of multiple disease-modifying therapies (DMTs) over the past several years, including generic glatiramer acetate (GA) agents and Genentech's Ocrevus, the first DMT indicated for primary progressive MS (PPMS). As physicians, patients, and industry adapt to these changes, brand choice for the coveted first-line position will be influenced by a multitude of clinical variables, such as patient demographics/characteristics, prognostic profiles, biomarkers, comorbidities, and QOL metrics, as well as anticipated brand performance and breadth of therapy choice for patients' diagnosed MS subtype.

RealWorld Dynamix™: DMT New Starts in MS (US) blends attitudinal and demographic physician survey data with patient record data to uncover how neurologists' practice type and setting and certain beliefs influence the treatment pathway and to understand how marketed DMTs are being used by physicians and for what patient types. The report also captures physician's perspectives about products in development and the impact they will have on the current treatment paradigm among new start patients.

SAMPLE & METHODOLOGY

Spherix Global Insights conducts an online survey with ~200 US neurologists combined with a large-scale patient record audit of over 1,000 of their MS patients recently started on their first-line DMT. Each neurologist completes an in-depth retrospective review of their last three to seven patients who meet specific study criteria. Respondents are recruited from the Spherix Network, a proprietary group of clinical neurologists meeting our strict screening criteria. Our relationship with this network leads to more engaged respondents resulting in higher quality output. Additionally, this gives us the opportunity to more easily revisit physicians to uncover even more insight on strategically important findings.

KEY QUESTIONS ANSWERED

- What are the key drivers (e.g., efficacy/safety/tolerability/patient/payer) for first-line DMT selection? To what extent do patient requests influence each brand? How much influence do payers exert on the final choice?
- What is the profile of a previously treatment-naïve patient being started on an interferon vs. GA agent vs. oral vs. monoclonal antibody DMT?
- How does first-line use differ between RRMS and PPMS patients?
- What is the opportunity cost for the brands (e.g., where would their brand have been selected if the first-line DMT was not available)?
- How is the availability of generic glatiramer acetate impacting overall share of the glatiramer acetate class? When prescribing Copaxone, do neurologists make a conscious effort to avoid generics? When prescribing generic glatiramer acetate, do neurologists specifically prescribe the generic or is it payer driven?
- Are neurologists willing to sacrifice safety for more efficacy in certain populations of MS patients (i.e., based upon their prognostic profile)?
- How frequently are neurologists using various biomarkers (i.e., JCV serostatus, sNfL, oligoclonal bands) and does the result shape the patient pathway?
- How long do neurologists plan to treat patients with the first-line DMT (i.e., finite treatment or for suboptimal response) and how does it differ between brands or by patient type?
- What will be the impact of pipeline DMTs on the current first-line treatment algorithm? What are the most likely patient profiles for the pipeline DMTs?

Products Profiled

Commercial Products

Bayer (Betaseron), Biogen (Avonex, Plegridy, Tecfidera, Tysabri), EMD Serono (Rebif), Genzyme (Aubagio, Lemtrada), Genentech (Ocrevus, Rituxan), Mylan (generic glatiramer acetate), Novartis (Gilenya, Extavia), Sandoz (Glatopa), Teva (Copaxone)

Pipeline Agents

AB Science (masitinib), Biogen/Alkermes (diroximel fumarate), Celgene (ozanimod), EMD Serono (Mavenclad), J&J/Actelion (ponesimod), MedDay (MD-1003), MediciNova (ibudilast), Novartis (siponimod, ofatumumab), TG Therapeutics (ublituximab)

Key Dates

- February Publication

Note: a three day embargo is placed on delivery to non-manufacturers allowing clients time to digest the findings before public dissemination

Deliverables

- Proprietary questions
- PowerPoint report
- Frequency table & summary statistics
- On-site presentation
- Access to de-identified database through Spherix analytics team

Related Reports

- *RealWorld Dynamix™: DMT Switching in Multiple Sclerosis US*
- *RealWorld Dynamix™: Progressive Forms of Multiple Sclerosis US*
- *RealTime Dynamix™: Multiple Sclerosis US*
- *RealTime Dynamix™: Multiple Sclerosis EU*
- *RealWorld Dynamix™: DMT Switching in Multiple Sclerosis EU*
- *RealTime Dynamix™: Multiple Sclerosis Canada*

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