Disease-modifying therapy landscape: an evaluation of cost and care.

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BACKGROUND

Multiple sclerosis (MS) affects nearly 1 million people in the US[1] and has the fifth largest per commercially insured member per year drug (PMPY) spend[2]. Patients suffering from MS may have an increased risk of infections, contributing to a higher risk for hospitalizations and mortality[3,4]. Over the years, many disease-modifying therapies (DMT) have come to market, leading to increased drug choices and PMPY spend. Patient's often struggle with the cost, use and chronicity associated with these therapies.

OBJECTIVES

Use prescription claims history to evaluate DMT utilization, cost, adherence, switching and rate of infection in a commercially insured MS population.

METHODS

We analyzed DMT claims data of 34.2 million beneficiaries with a pharmacy benefit plan administered by a large pharmacy benefit manager over a two-year period 2017-2018. Unit cost trend was defined as the rate of cost change due to inflation, discounts, drug mix and member out of pocket cost and is determined on a per-member-per-year (PMPY) basis. Adherent patients were defined as an average medication possession ratio (MPR) of > 80%. Switching occurred when an alternative DMT claim occurred after the index DMT drug claim. MS related infections were assessed by ICD-10 codes and included: influenza, sinusitis, upper respiratory infection (URI), urinary tract infection (UTI), diverticulitis, cellulitis, shingles and sepsis. Results based on an aggregated measure of any of the above infections were presented.

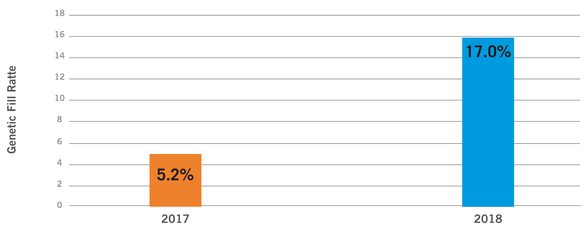
RESULTS

DMT prevalence of use was 0.09% in 2018. PMPY spend for DMT to treat MS decreased 4.8% in 2018, driven by a 7.8% utilization decrease. Utilization declined for injected interferons, such as Avonex®, Rebif® (interferon beta-1a) and Betaseron® (interferon beta-1b), as market share shifted to oral medications such as Aubagio® (teriflunomide), which had a 4.2% utilization increase in 2018. Not all new therapies are oral. Some of the newer DMT options are infrequently administered infused (IV) products, such as Ocrevus® (ocrelizumab).

Claims for IV DMT may adjudicate through the medical benefit and not be fully appreciated in this analysis. Utilization of Copaxone® (glatiramer acetate) declined by 59.6%, influenced by the availability of a generic alternative, glatiramer acetate, in late 2017. Overall generic DMT fill rate rose from 5.2% to 17.0% (Figure 1) year over year due to the availability of glatiramer acetate. Glatiramir acetate captured just over 8% of market share in this class in 2018. In 2018, the average cost per 30 day adjusted branded Copaxone was $5,209.46 while the generic equivalent glatiramer acetate was $4,468.25.

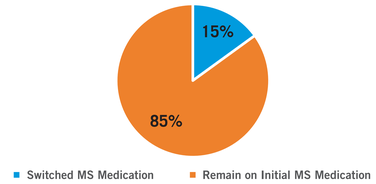
Branded medications Tecfidera® (dimethyl fumarate), Gilenya® (fingolimod) and Avonex account for more than 44% of DMT prescribed in this class and each of these increased in unit cost (range 3.7- 6.0%).

DMT Generic Fill Rate



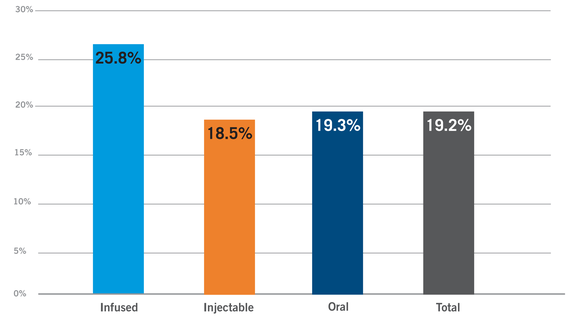
In 2018, just over 27% of patients utilizing MS medications were non-adherent to their DMT. This represents a 1.4% year over year increase in non-adherence. Nearly 15% of patients initiating a DMT switched to another medication within one year of the initial prescription.

Percent of Patients Switching Intitial MS Medication within 1 Year



The highest rate of infections was in patients that utilize infused medications, such as Lemtrada® (alemtuzumab), Ocrevus and Tysabri® (natalizumab). Injectable medications included Avonex, Betaseron, Copaxone, Extavia® (interferon Beta-1b), Glatopa® (glatiramer), Plegridy® (peginterferon Beta-1a) and Rebif. Oral medications consist of Aubagio, Gilenya, glatiramer acetate and Tecfidera.

Infection rate by DMT administration route



CONCLUSIONS

Findings from this study show a significant portion of MS patients struggle with adherence. Early identification of non-adherent patients and application of customized support may help optimize therapeutic outcomes. MS related infections, believed to be associated with increased hospitalizations and mortality, were highest in patients utilizing infused medications. The advent of generics and shifting utilization trends appear to contribute to decreasing PMPY costs. Further analysis is needed to appreciate DMT spend impact from the recent shift to infrequent, infused products that are adjudicating through the medical channel. Knowledge of DMT trends in cost, utilization and chronicity can assist in reducing costs, improving treatment, and identifying opportunities for further study.

REFERENCES

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