Understanding the pattern of biosimilar switch from biologics and Disease-modifying antirheumatic drugs (DMARDs) in Inflammatory Bowel Disease

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Introduction

- According to CDC, patients with Inflammatory Bowel Disease (IBD) tend to have higher healthcare utilization including doctor's visits, ER visits, and GI-related surgeries as compared to non-IBD patients
- Traditionally anti-inflammatory drugs such as Steroids and DMRDs were used as primary choice of therapy
- The recent treatment modalities in the form of biologics and biosimilars have proven beneficial in halting disease progression and improving quality of life
- Biosimilars hold value in terms of providing cost-effective treatment still there is low penetration observed for biosimilar usage in the US compared to the European markets
- The barriers to a large-scale adoption of biosimilars could be multifactorial such as biosimilar availability, designs of formulary to include biosimilars, physicians' acceptance, administration on the site of care and various other regulatory requirements..
- Analyzing patient demographics can help understand the leading indicators from a biologics or DMARDs to biosimilar switch

Objective

To understand the switching pattern from biologic or DMARDs to Infliximab biosimilar in IBD patients

Method

- Optum® de-identified Market Clarity Dataset, which links medical and pharmacy claims with EHR data across the continuum of care was used to identify IBD patients who received biosimillars from Jan 2019 to Dec 2022
- Patients with ≥ 2 outpatient and at least 1 inpatients claims, or healthcare encounter and continuous medical and pharmacy eligibility /healthcare activity of pre-index 6 months (baseline period) were included in the analysis. The date of first biosimilar prescription was considered as index date
- Patients were checked for biologics and DMARDs prescription received during baseline period
- Biologic switch cohort: defined as patients who took biologics in baseline but not DMARDs and switched to biosimilar within 6 months of biologic initiation date
- DMARDs switch cohort: defined as patients who took DMARDs in baseline but not biologics and switched to biosimilar within 6 months of DMARDs initiation date
- The relative proportion of patients switching to biosimilar from either of the cohort was determined to understand the switch pattern

Results

- Of the total 5,699 patients in the study period, 70% patients switched from biologics to biosimilar and 30% patients switched from DMARDs to biosimilar
- Switch from biologics to biosimilar was higher among young patients (18 - 45 years) compared to the older patients and contrasting results were observed in switching from DMARDs to biosimilars [Fig.1]
- The adoption of biosimilar also varied between races. Biologics to biosimilar switch was found to be similar between African American and whites but more African Americans switched from DMARDs to biologics [Fig.2]
- More proportion of switch from biologics to biosimilar was observed in commercial line of business whereas more Medicare patients switched from DMARDs to biosimilars [Fig.3]

Fig.1: Age wise comparison of relative proportion of biosimilar switch

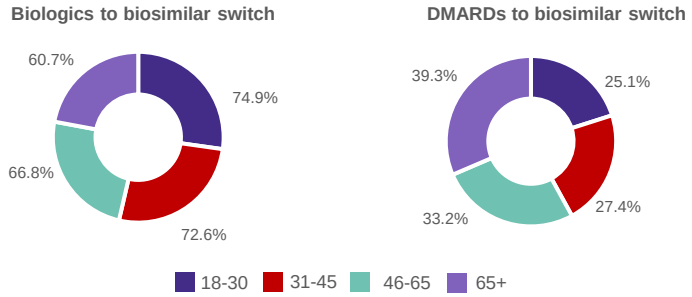


Fig.2: Race wise comparison of relative proportion of biosimilar switch

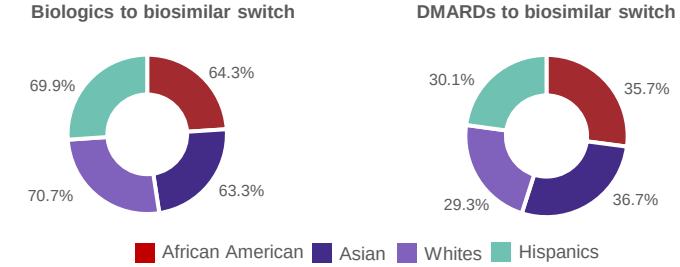
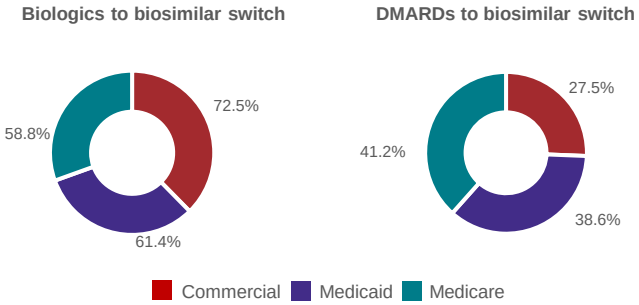


Fig.3: Insurance wise comparison of relative proportion of biosimilar switch



Conclusion & Limitations

- Switching pattern from biologics to biosimilar and DMARDs to biosimilar significantly varied by age, race and insurance type.
- The underlying reason for this variation can be associated with multiple factors such as physician's choice of treatment and patients' awareness of biosimilars and reimbursement policy.
- Further analysis can be done to identify the leading indicators of switch prediction as stated above.

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