

# Adherence to biologic therapies in patients with Ulcerative Colitis and Crohn's disease: Analysis of a national specialty pharmacy and the MarketScan commercial claims database



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## BACKGROUND

- Crohn's disease and Ulcerative colitis are the two most common forms of inflammatory bowel disease (IBD), which is an umbrella term to describe disorders that cause chronic inflammation of the gastrointestinal (GI) tract. This inflammation is a result of a dysregulated immune response to host intestinal microflora.
- 3.1 million people in the United States have been diagnosed with IBD, and there are 70,000 new cases each year. The largest impact of new diagnoses is on the commercial plan population (people ages 15-30 years).<sup>1</sup>
- Mainstay pharmacologic treatments include steroids, immunosuppressants, and biologics. 45% of the total IBD patient population takes biologic as part of their treatment, and biologics account for upwards of 85% of per member per year costs. With a robust pipeline, utilization of biologics is expected to continue to increase.<sup>2</sup>
- Appropriate treatment and medication adherence is key to achieving and maintaining remission. Remission goals include symptom relief and preventing IBD flares and complications, which account for about half of all IBD-related hospitalizations. Negative outcomes associated with sub-optimal adherence include poor symptom control, reduced quality of life, and increased risk of hospitalization and surgical intervention.
- Pharmacists and pharmacy team members are specially trained in medication adherence and are a valuable resource within multidisciplinary care teams to positively impact patient outcomes.

## OBJECTIVES

- To compare adherence to biologic therapies in patients with Ulcerative Colitis and Crohn's disease in a large pharmacy chain to a national benchmark.

## METHODS

- This study utilized retrospective specialty pharmacy claims data from two sources - a large, national pharmacy chain in 2021 (January-December) and the MarketScan commercial database in 2021 (January -December).
- Adult patients were included in the analysis if they had a diagnosis of Crohn's disease or Ulcerative Colitis and were prescribed a biologic medication. Patients were excluded from the analysis if they did not have >150 days between the first and last fill for any medication. Proportion of Days Covered (PDC) was calculated among patients who had two or more fills and > 56 days' supply. Patients were considered adherent with PDC >80%.
- Independent t tests were used for continuous outcome variables and chi square tests were used for categorical outcome variables. We chose  $p < .05$  as our criteria for judging differences as statistically significant.
- The methods of this study were reviewed and approved by Advarra IRB.

## RESULTS

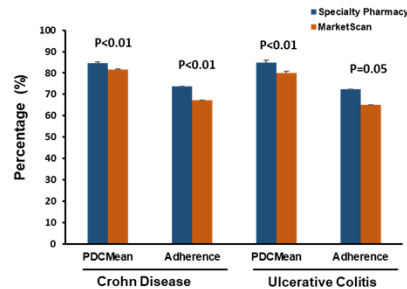
- A total of 12,047 patients with biologic therapies in the specialty pharmacy data and 13,175 patients with biologic therapies in the MarketScan met criteria to calculate PDC.

## RESULTS

**Table 1. Adherence to biologic therapies in patients with Ulcerative Colitis and Crohn's disease**

| Outcomes          | Pharmacy      | MarketScan    | <i>p</i> |
|-------------------|---------------|---------------|----------|
| Patients (n)      | 12,047        | 13,175        |          |
| Adherent (n, %)   | 8,031 (66.7%) | 7,827 (59.4%) | < .0001  |
| PDC (Mean ± S.D.) | 82.2% ± 17    | 77.8% ± 21    | < .0001  |

**Figure 1. Adherence to biologic therapies in patients with Crohn's disease and Ulcerative Colitis**



**Table 2. Adherence to biologic therapies in commercial patients with Crohn's disease and Ulcerative Colitis**

| Outcomes          | Crohn's Disease |               |          | Ulcerative Colitis |             |          |
|-------------------|-----------------|---------------|----------|--------------------|-------------|----------|
|                   | Pharmacy        | MarketScan    | <i>p</i> | Pharmacy           | MarketScan  | <i>p</i> |
| Patients (n)      | 184             | 4,038         |          | 75                 | 984         |          |
| Adherent (n, %)   | 127 (69.0%)     | 2,719 (67.3%) | .63      | 55 (69.3%)         | 640 (65.0%) | .45      |
| PDC (Mean ± S.D.) | 83.9% ± 16      | 81.7% ± 18    | .12      | 83.1% ± 18         | 80.1% ± 20  | .17      |

## RESULTS CONTINUED

- The average PDC for biologic therapies in patients from the specialty pharmacy data (82.2%) was higher than patients in the MarketScan data (77.8%,  $p < .0001$ ). There was also a significant difference in the percentage of patients who met the 80% medication adherence threshold between the two data sources (Specialty Pharmacy = 66.7%, MarketScan = 59.4%;  $p < .0001$ ) (See **Table 1**).
- When examining patients with a diagnosis of Crohn's disease, there were significant differences in average PDC (Specialty Pharmacy = 84.6%; MarketScan = 81.7%) and those who met the 80% medication adherence threshold (Specialty Pharmacy = 73.7%; MarketScan = 67.3%) between the two data sources (both  $p < .01$ ) (See **Figure 1**).
- Similarly, the average PDC in patients with Ulcerative Colitis from specialty pharmacy (84.9%) was higher than patients with Ulcerative Colitis in MarketScan (80.1%,  $p < .01$ ) and medication adherence had a similar pattern (Specialty Pharmacy = 72.5%; MarketScan = 65.0%). However, it was not significant ( $p = .05$ ) (See **Figure 1**).
- When the Specialty Pharmacy sample was restricted to commercial-only patients, the average PDC and medication adherence in patients with Crohn Disease were 83.9% and 69.0%, which were not found to be statistically significantly different from the MarketScan data (81.7%,  $p = .12$ ; 67.3%,  $p = .63$ ). Similarly, there were no difference on the average PDC and medication adherence in patients with Ulcerative Colitis between the two data sources (83.1% vs 80.1%,  $p = .17$ ; 69.3% vs 65.0%,  $p = .45$ ) (See **Table 2**).

## CONCLUSIONS

- Study results indicate patients with biologic therapies in specialty pharmacy had higher adherence levels compared to patients with biologic therapies in MarketScan. Patients with Crohn's disease or Ulcerative Colitis in specialty pharmacy also had higher adherence levels than those patients in MarketScan.
- These findings may suggest a positive correlation between the role of the pharmacist/pharmacy staff and adherence and health outcomes. Additional research around biologic adherence specifically within pharmacies and sub-populations would be beneficial to further understand in relation to health outcomes.
- Biologics are used to treat a variety of immunologic conditions, and additional research in the IBD space may improve targeted treatment strategies for this population.

## REFERENCES

- Inflammatory Bowel Diseases Clinical Primer and Care Pathway Tool Kit. Crohn's & Colitis Foundation. Accessed August 11, 2023. <https://www.chronocolitisfoundation.org/sites/default/files/2020-03/Inflammatory%20Bowel%20Disease%20Clinical%20Primer%20and%20Pathway%20Tool%20Kit.pdf>
- Yu H, Maclsaac D, Wong JJ, et al. Market share and costs of biologic therapies for inflammatory bowel disease in the USA. *Alimentary Pharmacology & Therapeutics*. 2017;47(3):364-370. doi:https://doi.org/10.1111/apt.14430