Real-World Biologic Treatment Prescribing Patterns and Reasons for Discontinuation in Patients With UC and CD

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Background

- Inflammatory bowel disease (IBD), which includes ulcerative colitis (UC) and Crohn's disease (CD), affects an estimated 2.4 million Americans[1]
- Although biologic therapies for patients with UC and CD have improved outcomes in patients with moderate-to-severe IBD, patients often lose response to therapy or may experience side effects, and ultimately require additional treatment options[2]
- Selection of first-line biologic therapy for patients with moderate-to-severe IBD, and the decision to switch to an alternative biologic, are typically based on an individualized approach and shared decision-making between the physician and patient[3]
- This study aimed to assess real-world prescribing patterns of biologics and explore factors driving therapy change

Methods

- This retrospective observational study used natural language processing (NLP) to search and analyze the Amplity AnswerY™ database and platform for patients diagnosed with UC or CD
- Amplity AnswerY™ is Amplity's real-world database and platform built from HIPAA-compliant transcriptions of US prescriber–patient visits. Using AI and NLP, it extracts, visualizes, and summarizes treatment discussions and clinical decisions. Covering inpatient and outpatient care across 70+ specialties since 2017, AnswerY was known as Amplity Insights™ prior to January 2025
- AnswerY was queried for patients with a diagnosis of UC or CD who were prescribed at least 1 biologic therapy
- Patients were followed through subsequent lines of biologic therapy until documented discontinuation of therapy or no further mention of a subsequent biologic therapy
- Trends in prescribing habits were gathered for all-time records, then split by records before 2023 and 2023 onward to understand influence of biosimilar adoption on prescribing habits
- Reasons for discontinuation were documented between lines of therapy

Conclusion

- Analysis of the AnswerY database shows adalimumab and infliximab are the most utilized first-line biologics, with a wider range of agents used in second-line therapy
- Using AI and NLP to review patient–provider transcripts, AnswerY was able to track prescribing trends through lines of therapy and identify reasons for treatment discontinuation
- The most common reasons for discontinuation of first-line biologic therapy were adverse events and efficacy
- This real-world data can be used to further understand the treatment landscape of biologics in the treatment of IBD

*PRESENTING AUTHOR

DISCLOSURES
All authors are employees of Amplity, Inc.

To learn more about this study and further research by Amplity AnswerY™, please scan this code.

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1. Lewis JD, et al. Incidence, prevalence, and racial and ethnic distribution of inflammatory bowel disease in the United States. *Gastroenterology*. 2023; 165:1197-1205.e2.
2. Kapizioni C, et al. Biologic therapy for inflammatory bowel disease: real-world comparative effectiveness and impact of drug sequencing in 13 222 patients within the UK IBD BioResource. *J Crohns Colitis*. 2024;18:790–800.
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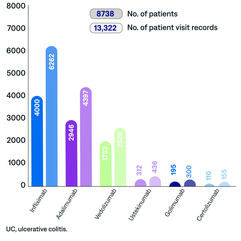
Results: Demographics for Patients With UC and CD

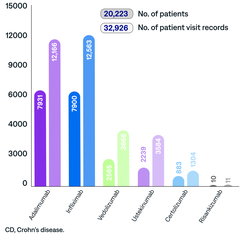
- AnswerY identified 8738 patients with UC (**Figure 1**) and 20,223 patients with CD (**Figure 2**) treated with biologic therapy
- Overall, as seen in **Figures 3** and **4**, there was a wide range of age groups, slightly more female patients (51.93% UC, 56.64% CD), and a majority of patients were Caucasian (89.28% UC, 88.09% CD)
- The geographic distribution of patient records is shown in **Figure 5** and **Figure 6**

Figure 1: Number of Patients and Records With Mention of UC and Biologic Therapy



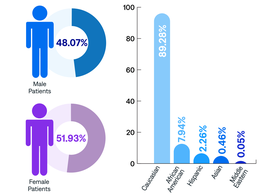
UC, ulcerative colitis.

Figure 2: Number of Patients and Records With Mention of CD and Biologic Therapy



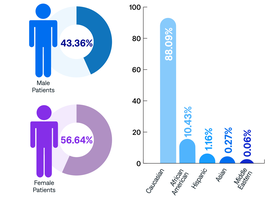
CD, Crohn's disease.

Figure 3: Demographics for Patients With UC



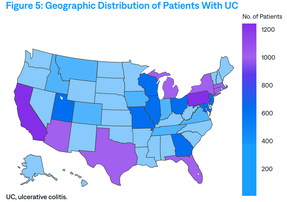
UC, ulcerative colitis.

Figure 4: Demographics for Patients With CD



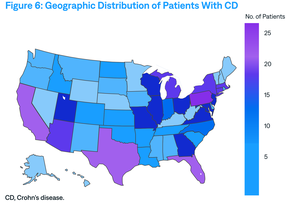
CD, Crohn's disease.

Figure 5: Geographic Distribution of Patients With UC



UC, ulcerative colitis.

Figure 6: Geographic Distribution of Patients With CD



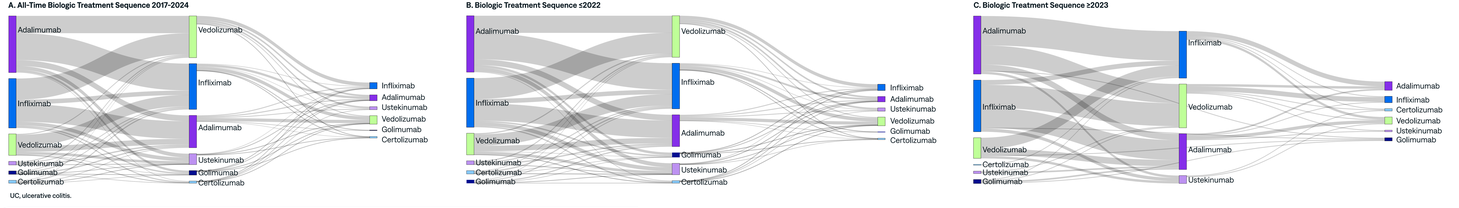
CD, Crohn's disease.

Among patients with UC or CD, the most commonly prescribed first-line biologics were adalimumab and infliximab, with more variability in the second line

Results: Biologic Treatment Journey for Patients With UC

- All-time, the most common first-line biologics prescribed for patients with UC were adalimumab (41.21%) and infliximab (36.00%), followed by vedolizumab (15.60%) (**Figure 7**)
- Second-line therapy for patients with UC included infliximab (33.30%), vedolizumab (30.40%), and adalimumab (23.50%) (**Figure 7**)
- These trends were similar for ≤2022 and ≥2023

Figure 7: Biologic Treatment Sequencing for Patients With UC

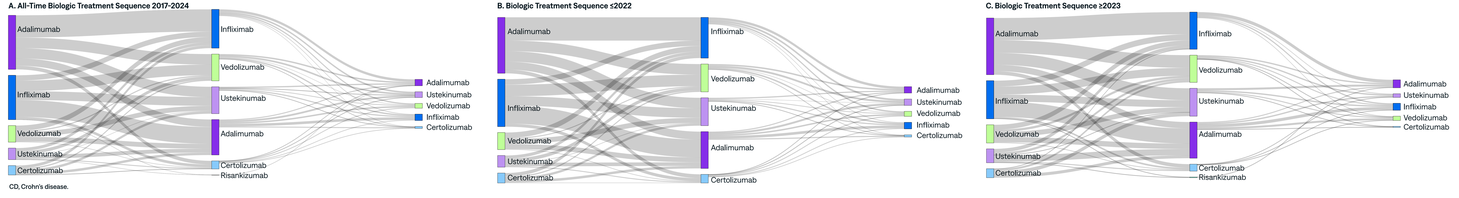


UC, ulcerative colitis.

Results: Biologic Treatment Journey for Patients With CD

- All-time, the most common first-line biologics in patients with CD were adalimumab (39.70%) and infliximab (32.60%), followed by vedolizumab (32.20%) (**Figure 8**)
- Second-line therapy was distributed among infliximab (28.50%), adalimumab (26.00%), ustekinumab (19.80%), and vedolizumab (19.67%) (**Figure 8**)
- These trends were similar for ≤2022 and ≥2023

Figure 8: Biologic Treatment Sequencing for Patients With CD



CD, Crohn's disease.

Adverse events and efficacy were the most common reasons for treatment discontinuation

Results: Treatment Discontinuation

- The most frequently reported reasons for discontinuing first-line biologic therapy were adverse events and efficacy (**Table 1** and **Table 2**)
- In patients with UC, first-line vedolizumab was discontinued due to adverse events more often than first-line infliximab and adalimumab
- In patients with CD, vedolizumab was discontinued due to patient preference more often than first-line infliximab and adalimumab

Table 1: Reasons for Discontinuation From First- to Second-Line Therapy in Patients With UC

1L → 2L	Adverse events (%)	Efficacy (%)	Insurance (%)	Patient preference (%)	Cost (%)
Adalimumab → Infliximab (n=98)	20.08	20.08	n/a	n/a	0.84
Adalimumab → Vedolizumab (n=67)	17.53	19.48	1.30	5.19	n/a
Infliximab → Adalimumab (n=77)	28.66	15.29	0.64	3.82	0.64
Infliximab → Vedolizumab (n=91)	25.00	20.74	n/a	1.06	1.60
Vedolizumab → Adalimumab (n=26)	34.00	14.00	n/a	2.00	2.00
Vedolizumab → Infliximab (n=56)	35.64	16.83	0.99	1.98	n/a

1L, first line; 2L, second line; n/a, not applicable; UC, ulcerative colitis.

Table 2: Discontinuation From First- to Second-Line Therapy in Patients With CD

1L → 2L	Adverse events (%)	Efficacy (%)	Insurance (%)	Patient preference (%)	Cost (%)
Adalimumab → Infliximab (n=161)	19.31	12.23	0.43	1.50	1.07
Adalimumab → Vedolizumab (n=102)	21.27	21.72	2.71	0.45	n/a
Infliximab → Adalimumab (n=161)	28.81	11.58	0.85	2.54	1.69
Infliximab → Vedolizumab (n=106)	24.66	21.97	n/a	0.90	n/a
Vedolizumab → Adalimumab (n=49)	29.70	11.88	n/a	6.93	n/a
Vedolizumab → Infliximab (n=62)	32.73	15.45	1.82	5.45	0.91

1L, first line; 2L, second line; CD, Crohn's disease; n/a, not applicable.