

Kelly McAuliff, PharmD, BCOP, CSP; Dipti Shah, PharmD, CSP; Cliff Rutter, PharmD, PhD; Timothy Barnett, PharmD; Elisea Avalos-Reyes, PhD; Rashmi Grover, PharmD; Lucia Feczko, RPh; Will Cavers, MSc; Dorothea J. Verbrugge, MD; Kjell Johnson, PharmD

## Background

- Specialty pharmacists play a key role in facilitating the switch from biologics to biosimilars
- These pharmacists can educate patients on biosimilars' safety and efficacy, address any concerns, and ensure a smooth transition from biologics, potentially improving adherence and healthcare access
- We recently launched a biosimilar adoption strategy to expand access to biosimilars and drive sustainable cost savings and options for consumers

## Objective

- To compare treatment duration, adherence, and out-of-pocket (OOP) costs between individuals receiving oncology biosimilars versus oncology reference branded products

## Methods

- This retrospective cohort study included adult commercial fully-insured and Medicare Advantage members of a large national payor with ≥1 claim for a physician-administered oncology biosimilar or reference branded product between 12/01/2020 and 11/30/2022
- To assess adherence, we compared claims per month and time on therapy between groups; OOP costs were examined as a secondary endpoint
- Continuous variables were compared with Student's t-test and categorical variables were compared with a Chi-squared test; p-values <0.05 were considered significant

## Results

- In total, 2,597 individuals were included (605 members received granulocyte colony stimulating factor originator or biosimilar products [oncology support group]; 1,992 received trastuzumab or rituximab originator or biosimilar products [oncology group])
- There were between-group differences in age, gender, and agent received
- A total of 41,182 claims were evaluated; 59.2% were for reference branded products
- 3,817 medication-member combinations were evaluated, of which 64.2% received a reference branded product
- Overall, individuals receiving biosimilar agents had more total claims (mean [standard deviation, SD]: 13.9 [6.3] vs. 13.1 [7.5]; p=0.003) and claims per month (1.4 [0.5] vs. 1.3 [0.6]; p<0.001)
- Individuals receiving reference branded products had longer time on therapy (10.5 [4.1] vs. 10.0 [3.7] wk; p=0.006)
- When examining oncology agents only (n=1,992), individuals receiving biosimilar agents had more claims per month (1.4 [0.5] vs. 1.3 [0.6]; p<0.001)
- Individuals receiving reference branded products had longer time on therapy (11.0 [4.1] vs. 10.1 [3.7] wk; p<0.001)
- Individuals prescribed oncology support reference branded products and oncology treatment reference branded products experienced 475% and 350% higher OOP spend compared to individuals prescribed biosimilars (both p<0.001), respectively

## Conclusions

This real-world evaluation leveraging administrative claims from a nationwide payor revealed that **individuals receiving oncology biosimilars appear to experience shorter observed time on therapy, higher adherence, and lower OOP spend than individuals receiving reference branded products.** Despite superior member-centric outcomes, **biosimilars were prescribed less often than reference branded products.**

Table 1: Member demographics

	Overall N=2597	Reference Biologic n=1504 (57.9%)	Biosimilar n=1093 (42.1%)	p-value
Age, mean (SD)	59.6 (13.2)	61.0 (13.4)	57.8 (12.7)	<0.001
Age, median [Q1,Q3]	60.0 [51.0,69.0]	61.0 [52.0,71.0]	58.0 [49.0,65.0]	<0.001
Male sex, n (%)	540 (20.8)	394 (26.2)	146 (13.4)	<0.001
Reference Agent, n (%)				<0.001
trastuzumab	1497 (57.6)	623 (41.4)	874 (80.0)	
pegfilgrastim	578 (22.3)	546 (36.3)	32 (2.9)	
filgrastim	27 (1.0)	14 (0.9)	13 (1.2)	
rituximab	495 (19.1)	321 (21.3)	174 (15.9)	
Drug Class, n (%)				<0.001
Oncology	1992 (76.7)	944 (62.8)	1048 (95.9)	
Oncology Support	605 (23.3)	560 (37.2)	45 (4.1)	

SD: Standard Deviation; Q1: 25<sup>th</sup> percentile; Q3: 75<sup>th</sup> percentile

## Cost outcomes

- Reference branded products were associated with significantly higher out of pocket (OOP) costs compared to biosimilar products (260% increase, p<0.001)
- Members receiving oncology treatment reference branded products had significantly higher OOP costs (350% increase, p<0.001) compared to biosimilar products
- Oncology support reference products were associated with a 475% increase in OOP costs (p<0.001) compared to biosimilar products

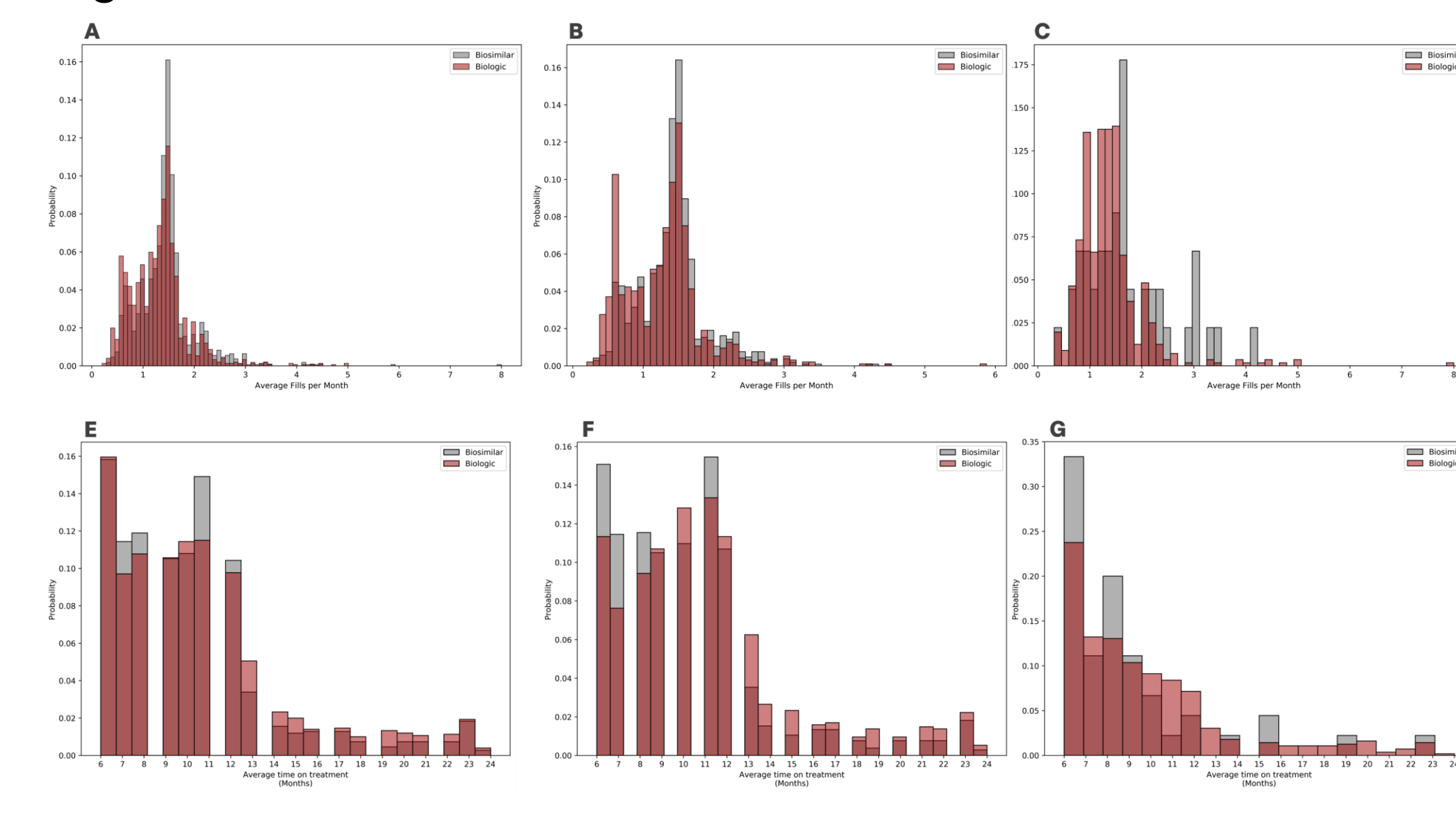
Table 2: Adherence metrics

Variable	Reference Biologic	Biosimilar	p-value
<b>Overall, N=2597</b>			
n (%)	1504 (57.9%)	1093 (42.1%)	
Claims, mean (SD)	13.1 (7.5)	13.9 (6.3)	0.003
Claims, median [Q1,Q3]	11.0 [8.0,16.0]	12.0 [9.0,17.0]	<0.001
Claims per month, mean (SD)	1.3 (0.6)	1.4 (0.5)	<0.001
Claims per month, median [Q1,Q3]	1.3 [0.9,1.5]	1.4 [1.2,1.6]	<0.001
Time on Therapy, mean (SD)	10.5 (4.1)	10.0 (3.7)	0.006
Time on Therapy, median [Q1,Q3]	10.0 [7.0,12.0]	10.0 [7.0,11.0]	0.034
<b>Oncology, n=1992</b>			
n (%)	944 (47.4%)	1048 (52.6%)	
Claims, mean (SD)	13.3 (7.2)	13.9 (6.2)	0.079
Claims, median [Q1,Q3]	12.0 [8.0,17.0]	12.5 [9.0,17.0]	0.001
Claims per month, mean (SD)	1.3 (0.6)	1.4 (0.5)	<0.001
Claims per month, median [Q1,Q3]	1.3 [0.8,1.5]	1.4 [1.2,1.6]	<0.001
Time on Therapy, mean (SD)	11.0 (4.1)	10.1 (3.7)	<0.001
Time on Therapy, median [Q1,Q3]	10.0 [8.0,12.0]	10.0 [7.0,11.2]	<0.001
<b>Oncology Support, n=605</b>			
n (%)	560 (92.6%)	45 (7.4%)	
Claims, mean (SD)	12.7 (7.9)	14.6 (8.9)	0.18
Claims, median [Q1,Q3]	11.0 [8.0,14.0]	12.0 [9.0,18.0]	0.151
Claims per month, mean (SD)	1.4 (0.7)	1.7 (0.8)	0.008
Claims per month, median [Q1,Q3]	1.3 [1.0,1.6]	1.7 [1.2,2.1]	0.001
Time on Therapy, mean (SD)	9.6 (3.9)	8.7 (3.6)	0.138
Time on Therapy, median [Q1,Q3]	8.5 [7.0,11.0]	8.0 [6.0,9.0]	0.073

SD: Standard Deviation; Q1: 25<sup>th</sup> percentile; Q3: 75<sup>th</sup> percentile

Claims per month: Total claims during study divided by the number of months patients received medication

Figure 1: Adherence metric distributions



- A. Overall Average Fills per Month
- B. Average Fills per Month in Oncology therapy
- C. Average Fills per Month in Oncology support
- D. Overall Average Time on Therapy
- E. Average Time on Therapy in Oncology therapy
- F. Average Time on Therapy in Oncology support

Number of fills: Number of times patients filled their prescriptions during the study period, adjusted for time