

Real-World Persistence of Janus Kinase Inhibitors in Biologic-Experienced Patients with Rheumatoid Arthritis in the US



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BACKGROUND

Janus kinase inhibitors (JAKs) for rheumatoid arthritis (RA) have been increasingly used for patients who do not respond to biologic disease modifying antirheumatic drug (bDMARD) treatments. Orally administered drugs, like JAKs, were expected to address poor therapy persistence rates associated with self-administered, injectable bDMARDs.

OBJECTIVES

To evaluate the persistence of JAKs used to treat RA in the United States using real-world commercial (Marketscan) and government (Medicare) insurance claims data.

METHODS

- Retrospective analysis of patients initiating their first JAK for RA
- 2006-2021 Marketscan data (commercial health plan claims data) and 2010-2020 Medicare fee for service (FFS)
- The last index date (12/31/2019 in Medicare) and (12/31/2020 in Marketscan) enabled the potential for ≥1 year of follow-up.
- Drug persistence was measured at 1 and 2 years defined as:
- Continuous use of JAK without gap of >90 days + No switch to another JAK or bDMARD

RESULTS

	Ned	icare	col	hort
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- 11,170 RA patients
- Mean prior use of 2.1 \pm 1.2 bDMARDs and \bullet $1.8 \pm 1.0 \text{ cDMARDs}$
- 43.0) at 1 year, 27.2% (95% CI: 26.4, 28.1) at 2 years, and differed across JAKs (Table
- No patients taking upadacitinib at 2
- FDA approval of upadacitinib (2019)

Marketscan cohort

- 9,458 RA patients
- Mean prior use of 2.0 \pm 1.1 bDMARDs and 1.7 ± 1.0 cDMARDs.
- JAK persistence was 42.0% (95% CI: 41.1, JAK persistence was 43.7% (95% CI: 42.6, 44.7) at 1 year, 26.9% (95% CI: 25.9, 28.0) at 2 years, and differed across JAKs (Table
 - Persistence in Marketscan comparable across JAKs at year 1 and year 2

CONCLUSIONS

- Persistence with initial JAK for RA in real-world settings was poor as measured in 2 independent data sources.
- Oral JAKs do not appear to have improved persistence compared to previous bDMARD studies.
- There is a pressing need for newer, better-tolerated therapies to improve long-term outcomes in rheumatoid arthritis treatment.

Table 1: Characteristics of JAKs for Medicare and Marketscan **Claims-Based Persistence Analysis** Marketscan Medicare Characteristic

Gilaragionione	N= 11,170	N= 9,458	
Age at index date, Years, Mean (SD)	63.2 (12.2)	53.6 (10.8)	
Female: N (%)	9,512 (85.2)	7,814 (82.6)	
Number of prior biologic DMARDS, Mean (SD)	2.1 (1.2)	2.0 (1.1)	
Number of prior conventional	1.8 (1.0)	1.7 (1.0)	

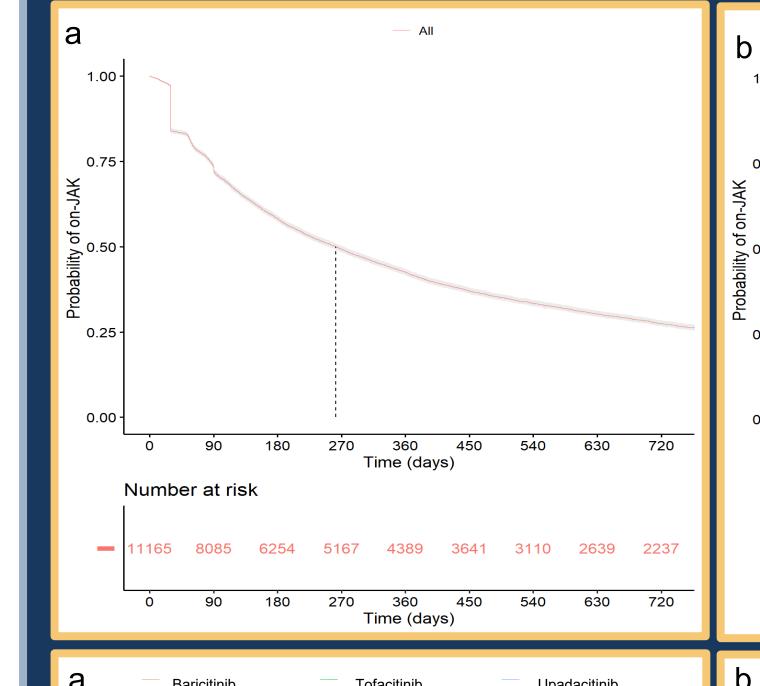
JAK: Janus Kinase inhibitors; SMD: Standard Mean Difference; SD: Standard Deviation; IQR: Interquartile Range; DMARD: Disease Modifying Antirheumatic Drug.

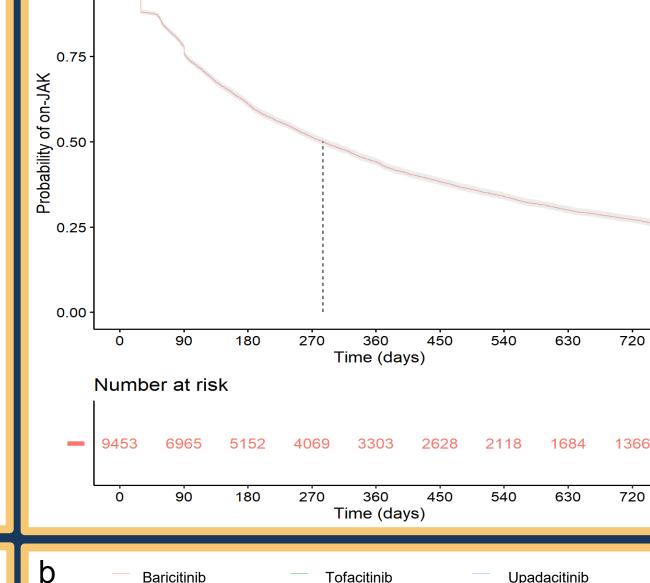
Table 2: Persistence with JAKs at 1 and 2 Years

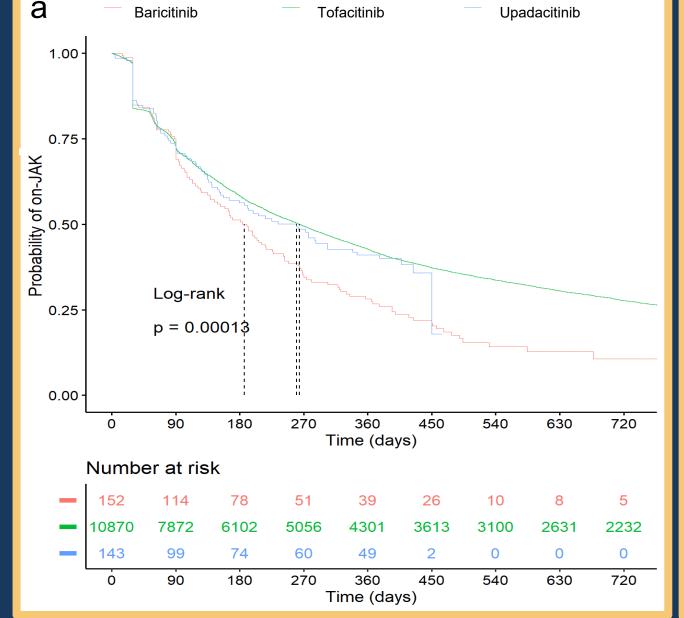
DMARDS, Mean (SD)

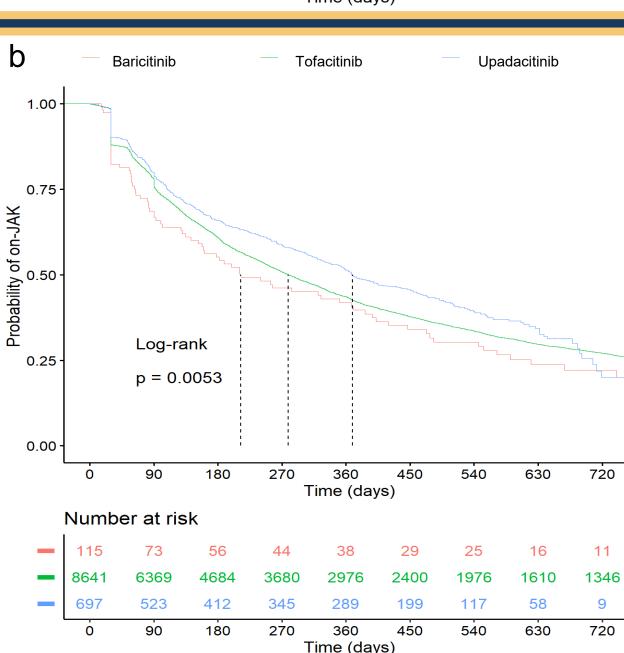
	Medicare		Marketscan			
	1 Year	2 Years	1 Year	2 years		
Overall, % (95% CI)	42.0	27.2	43.7	26.9		
	(41.1, 43.0)	(26.4, 28.2)	(42.6, 44.7)	(25.9, 28.0)		
Baricitinib, % (95% CI)	27.4	10.6	41.9	22.1		
	(21.1, 35.6)	(5.8, 19.5)	(33.4, 52.6)	(14.8, 32.9)		
Tofacitinib, % (95% CI)	42.2	27.4	43.1	26.8		
	(41.3, 43.2)	(26.6, 28.3)	(42.0, 44.2)	(25.7, 27.9)		
Upadacitinib, % (95% CI)	41.1	NA	50.8	20.1		
	(33.4, 50.5)	(NA, NA)	(47.0, 54.9)	(13.8, 29.2)		
JAK: Janus Kinase inhibitors; CI: Confidence Interval.						

Figure 1: Persistence with JAKs Overall and by Medication at 1 and 2 Years for Medicare Data (a) and Marketscan Data (b)









JAK: Janus kinase inhibitor. The dotted line shows the time to discontinuation at the 50th percentile in JAKs.