



# Describing medication switching patterns in adults with rheumatoid arthritis from 2016-2022: A real-world data study.

Djeneba Audrey Djibo, PhD<sup>1</sup> ♦ Erick Moyneur<sup>2</sup> ♦ Jonathan P. DeShazo, PhD, MPH<sup>3</sup> ♦ Jennifer L. Pigoga, PhD<sup>1</sup> ♦ Cheryl N. McMahill-Walraven, MSW, PhD<sup>1</sup> ♦ Aaron B. Mendelsohn, PhD, MPH<sup>3,4</sup> ♦ Catherine M. Lockhart, MS, PharmD, PhD<sup>5</sup>

<sup>1</sup>CVS Health, <sup>2</sup>StatLog Inc., <sup>3</sup>Harvard Pilgrim Health Care Institute, <sup>4</sup>Harvard Medical School, <sup>5</sup>Biologics and Biosimilars Collective Intelligence Consortium

## Methods

We conducted a **retrospective analysis** of **administrative claims** for commercial Aetna enrollees aged 18 years and above from 01/01/2016 to 12/31/2022.

Included members had an **RA diagnosis** with ≥183 days of medical and pharmacy coverage prior to initiating a medication of interest (incident use) during the study period.

Patients were followed from incident use through end of enrollment, end of study period, disenrollment (including death), or medication discontinuation (>45-day gap in supply).

## Patient Characteristics

A total of 11,945 individuals were identified, of which 87.4% (n=10,442) initiated a DMARD and 11.5% (n=1,373) started a biologic. Only 1.1% (n=130) indexed on JAKIs.

Incident **DMARD users were slightly older**, with a mean age of 63.6 years (SD=13.7), while mean ages of biologic and JAKI incident users were similar at 59.5 (SD=15.0) and 58.2 (SD=12.2) years, respectively. Fewer JAKI incident users were male (19.2%) compared to biologic (26.5%) and DMARD (25.4%) users.

The **most common co-occurring disorders** across incident RA medication users were **psoriatic arthritis** (n=348, 2.9%), **ankylosing spondylitis** (n=346, 2.9%), and **psoriasis** (n=325, 2.7%).

## Results & Conclusions

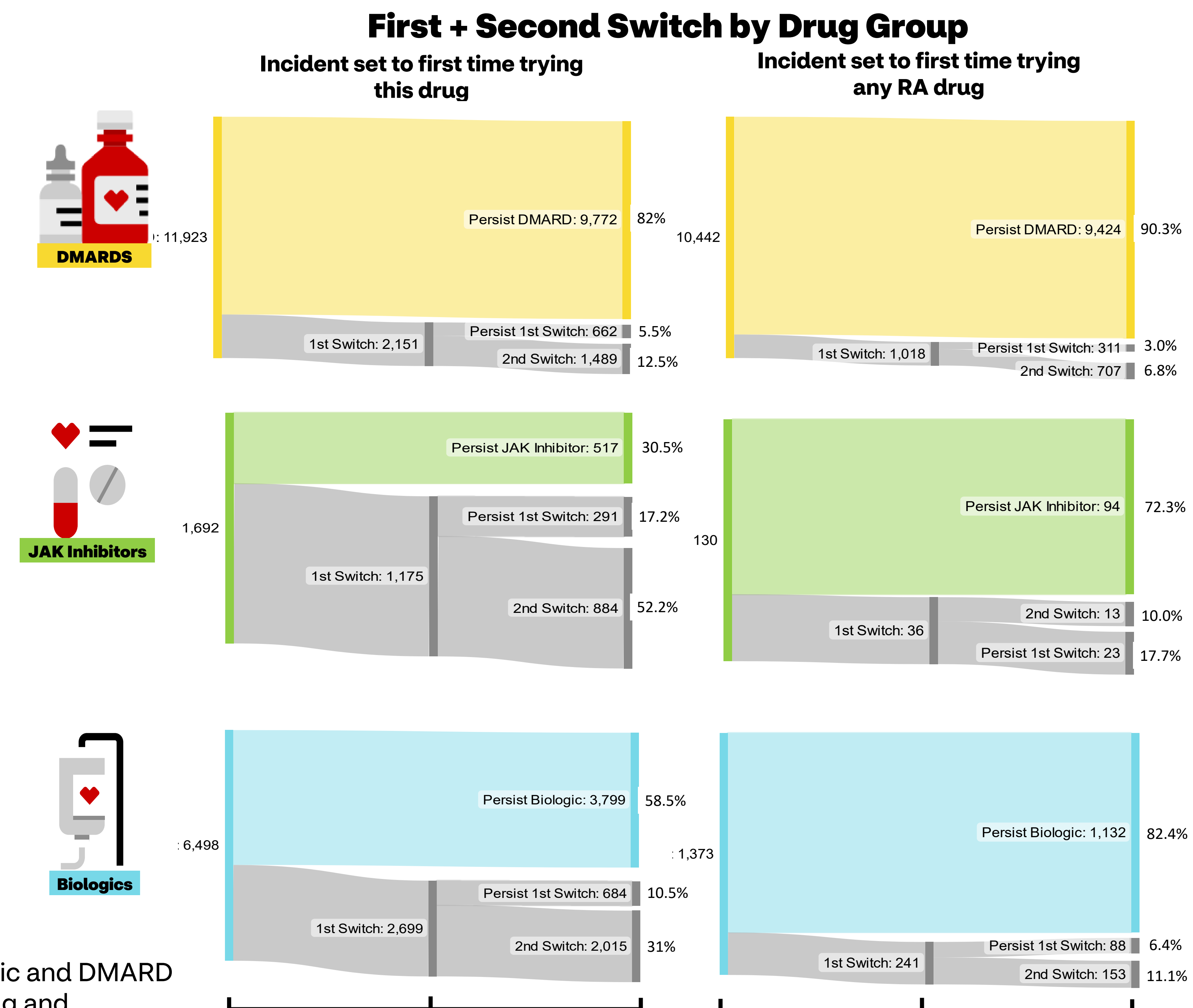
Switching was **most common for JAKI incident users**, with 27.7% (n=36) switching to at least one other medication. Switching was less common in biologic and DMARD incident users, with 17.5% (n=241) and 9.5% (n=1,018), respectively, experiencing post-initiation switching. Additional research is required to explore switching and adherence within these medication classes and identify optimal treatment scenarios.

## Background & Objective

Managing patients with rheumatoid arthritis (RA) is challenging and may require several attempts at therapy to identify an effective regimen. These switching patterns have not been characterized in a large cohort of commercially insured patients. In this descriptive study, **we examine treatment patterns for targeted immunomodulators (biologics, Janus Kinase inhibitors [JAKIs], and disease modifying anti-rheumatic drugs [DMARDs]), used in RA treatment.**

### First Switch by Incident Drug

Index drug	Group	Incident set to first time trying this drug			Incident set to first time trying any RA drug		
		# of patients	# of 1st switches	%	# of patients	# of 1st switches	%
Methotrexate	DMARD	8,323	1,883	22.7	4,508	1375	30.5
Hydroxychloroquine	DMARD	7,953	1,245	15.8	4,035	984	24.2
Leflunomide	DMARD	4,253	1,174	27.8	767	247	32.3
Sulfasalazine	DMARD	3,153	688	21.9	817	293	35.6
Minocycline	DMARD	898	165	18.3	338	44	13.1
Azathioprine	DMARD	723	177	24.5	141	41	28.9
Cyclosporine	DMARD	73	23	31.5	14	3	21.3
Gold Salts	DMARD	1	0	0	0	0	0
Penicillamine	DMARD	0	0	0	0	0	0
Tofacitinib citrate	JAKI	1,631	1,132	69.1	127	35	27.5
Baricitinib	JAKI	99	68	68.5	3	1	33.3
Adalimumab	Biologic	2,338	1,001	42.8	284	71	23.3
Etanercept	Biologic	2,129	899	42.2	257	80	31.2
Abatacept	Biologic	1,437	897	62.5	122	32	26.1
Golimumab	Biologic	1,025	431	42.1	69	14	20.1
Rituximab Originator	Biologic	995	319	32	217	36	16.6
Tocilizumab	Biologic	763	263	64.5	67	14	21
Certolizumab pegol	Biologic	741	222	29.7	90	24	26.6
Infliximab Originator	Biologic	703	200	28.5	74	15	20.5
Sarilumab	Biologic	507	163	32.2	111	46	41.4
Anakinra	Biologic	272	71	26	110	36	27.7
Infliximab-dyyb	Biologic	224	70	31.2	13	3	23.1
Rituximab-abbs	Biologic	159	33	20.7	21	4	19.1
Infliximab-abda	Biologic	125	43	34.4	8	1	12.5
Rituximab-pvvr	Biologic	92	16	17.4	24	4	16.8
Infliximab-axxq	Biologic	15	4	26.7	1	0	0
Canakinumab	Biologic	9	3	33.3	4	1	25
Rituximab-arrx	Biologic	1	0	0	1	0	0



Treatment periods vary significantly between patients and are not represented proportionally in these Sankey diagrams. Index use, switch dates, etc. could occur anytime in the study window. There is no minimum days required for index use or switching.