Impact of plan-level access restrictions on adherence and effectiveness of biologics among patients with rheumatoid or psoriatic arthritis

PharmacoEconomics

Natalie Boytsov, Xiang Zhang, Kristin A. Evans, Barbara H. Johnson

Corresponding Author: Natalie Boytsov, Eli Lilly and Company, boytsov_natalie_n@lilly.com

Online Resource 4: Baseline demographic and clinical characteristics of psoriatic arthritis (PsA) patients

	All Ps A Access Restrictions					P value
	Patients	Any	PA Only	Step Therapy ^a	None	(Any vs
	N=1,713	N=601	N=127	N=474	N=1,112	None)
Age, mean (SD)	47.4 (10.4)	47.1 (10.7)	47.5 (10.7)	47.1 (10.8)	47.6 (10.2)	0.408
Age group, N (%)						
18-34	217 (12.7%)	83 (13.8%)	16 (12.6%)	67 (14.1%)	134 (12.1%)	0.296
35-44	405 (23.6%)	144 (24.0%)	28 (22.0%)	116 (24.5%)	261 (23.5%)	0.820
45-54	587 (34.3%)	201 (33.4%)	44 (34.6%)	157 (33.1%)	386 (34.7%)	0.598
Male, N (%)	789 (46.1%)	252 (41.9%)	62 (48.8%)	190 (40.1%)	537 (48.3%)	0.012
Region, N (%)						
Northeast	249 (14.5%)	45 (7.5%)	12 (9.4%)	33 (7.0%)	204 (18.3%)	< 0.001
North Central	345 (20.1%)	83 (13.8%)	16 (12.6%)	67 (14.1%)	262 (23.6%)	< 0.001
South	904 (52.8%)	396 (65.9%)	48 (37.8%)	348 (73.4%)	508 (45.7%)	< 0.001
West	212 (12.4%)	77 (12.8%)	51 (40.2%)	26 (5.5%)	135 (12.1%)	0.687
Unknown	3 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (0.3%)	
Urban residence, N(%)						
Urban	1486 (86.7%)	474 (78.9%)	107 (84.3%)	367 (77.4%)	1012 (91.0%)	< 0.001
Rural	224 (13.1%)	127 (21.1%)	20 (15.7%)	107 (22.6%)	97 (8.7%)	< 0.001
Unknown	3 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (0.3%)	
Insurance plan type, N (%)						
Comprehensive	61 (3.6%)	9 (1.5%)	0 (0.0%)	9 (1.9%)	52 (4.7%)	0.001
EPO/PPO	1030 (60.1%)	317 (52.7%)	85 (66.9%)	232 (48.9%)	713 (64.1%)	< 0.001
POS/POS with capitation	117 (6.8%)	43 (7.2%)	6 (4.7%)	37 (7.8%)	74 (6.7%)	0.695
HMO	97 (5.7%)	65 (10.8%)	24 (18.9%)	41 (8.6%)	32 (2.9%)	< 0.001
CDHP/HDHP	385 (22.5%)	152 (25.3%)	6 (4.7%)	146 (30.8%)	233 (21.0%)	0.040
Unknown	23 (1.3%)	15 (2.5%)	6 (4.7%)	9 (1.9%)	8 (0.7%)	0.002
DCI, mean (SD)	0.3 (0.8)	0.3 (0.8)	0.4 (1.0)	0.3 (0.8)	0.3 (0.9)	0.912
Comorbid Conditions, N (%)						
Anemia	65 (3.8%)	23 (3.8%)	3 (2.4%)	20 (4.2%)	42 (3.8%)	0.959
Anxiety	126 (7.4%)	50 (8.3%)	8 (6.3%)	42 (8.9%)	76 (6.8%)	0.261
Cardio vas cular dis ease	92 (5.4%)	33 (5.5%)	9 (7.1%)	24 (5.1%)	59 (5.3%)	0.871

Chronic respiratory	120 (7.50/)	40 (9.20/)	10 (7.00/)	20 (9 20/)	90 (7.20/)	0.472
condition Depression	129 (7.5%)	49 (8.2%)	10 (7.9%)	39 (8.2%)	80 (7.2%)	0.473
•	141 (8.2%)	64 (10.6%)	11 (8.7%)	53 (11.2%)	77 (6.9%)	0.007
Diabetes (type 1 or 2)	224 (13.1%)	77 (12.8%)	15 (11.8%)	62 (13.1%)	147 (13.2%)	0.811
Dyslipidemia	273 (15.9%)	101 (16.8%)	21 (16.5%)	80 (16.9%)	172 (15.5%)	0.470
Fibromyalgia	124 (7.2%)	51 (8.5%)	10 (7.9%)	41 (8.6%)	73 (6.6%)	0.143
Fragility fracture	5 (0.3%)	1 (0.2%)	1 (0.8%)	0 (0.0%)	4 (0.4%)	0.479
Hypertension	439 (25.6%)	175 (29.1%)	34 (26.8%)	141 (29.7%)	264 (23.7%)	0.015
Low back pain	194 (11.3%)	65 (10.8%)	12 (9.4%)	53 (11.2%)	129 (11.6%)	0.624
Malignancy	49 (2.9%)	14 (2.3%)	2 (1.6%)	12 (2.5%)	35 (3.1%)	0.332
Osteoarthritis	311 (18.2%)	121 (20.1%)	18 (14.2%)	103 (21.7%)	190 (17.1%)	0.118
Osteoporosis	19 (1.1%)	3 (0.5%)	0 (0.0%)	3 (0.6%)	16 (1.4%)	0.076
Psoriasis	930 (54.3%)	347 (57.7%)	67 (52.8%)	280 (59.1%)	583 (52.4%)	0.035
Medications, N (%)						
Biologic DMARD	83 (4.8%)	27 (4.5%)	NR	NR	56 (5.0%)	0.617
Targeted synthetic DMARD	0 (0.0%)	0 (0.0%)	NR	NR	0 (0.0%)	0.996
Conventional DMARD	799 (46.6%)	305 (50.7%)	NR	NR	494 (44.4%)	0.012
Glucocorticoid	794 (46.4%)	310 (51.6%)	NR	NR	484 (43.5%)	0.001
Antidepressant	514 (30.0%)	176 (29.3%)	NR	NR	338 (30.4%)	0.632
Antidiabetic	191 (11.2%)	67 (11.1%)	NR	NR	124 (11.2%)	0.999
Antihyperlipidemic	398 (23.2%)	135 (22.5%)	NR	NR	263 (23.7%)	0.578
Antihypertensive	614 (35.8%)	226 (37.6%)	NR	NR	388 (34.9%)	0.264
Pain medication	1003 (58.6%)	374 (62.2%)	NR	NR	629 (56.6%)	0.023
Opioid	569 (33.2%)	208 (34.6%)	NR	NR	361 (32.5%)	0.368
NSAID	729 (42.6%)	280 (46.6%)	NR	NR	449 (40.4%)	0.013
Other pain medication	243 (14.2%)	84 (14.0%)	NR	NR	159 (14.3%)	0.855
Healthcare utilization and costs PPPY, mean (SD)						
Inpatient admissions	2.2 (0.5)	2.4 (0.8)	NR	NR	2.1 (0.3)	0.038
Emergency room visits	2.6 (1.1)	2.6 (1.0)	NR	NR	2.6 (1.2)	0.900
Rheumatologistoffice						
visits	3.0 (1.7)	3.1 (1.7)	NR	NR	3.0 (1.6)	0.423
Total healthcare costs	\$8,958 (\$20,447)	\$9,109 (\$25,020)	NR	NR	\$8,877 (\$17,497)	0.823

Notes: awith or without PA. Abbreviations: CDHP, consumer driven health plan; DCI, Deyo-Charls on Comorbidity Index; DMARD, disease-modifying antirheumatic drug; EPO, exclusive provider organization; HDHP, high-deductible health plan; HMO, health maintenance organization; NR, not reported; NSAID, nonsteroidal anti-inflammatory drug; PA, prior authorization; POS, point of service; PPO, preferred provider organization; PPPY, per-person per-year