Supplementary Material:

Real-world utilization of biologic and targeted synthetic disease-modifying anti-rheumatic drugs in psoriatic arthritis and axial spondyloarthritis: Insights from Sweden and Germany

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Supplementary appendix 1: Data sources

Sweden: For Swedish data, pseudonymized individual-level data were extracted from national administrative registers, utilizing the unique personal identifier assigned to all Swedish citizens. Data extraction included information from multiple registers linked together: in- and outpatient specialist care details from the Swedish National Patient Register, pharmacy-dispensed prescriptions and dosage data from the Swedish Prescribed Drug Register, mortality-related information from the Swedish Causes of Death Register, migration status details from the national population register, and socio-demographic characteristics from the Swedish Longitudinal Integrated Database for Health Insurance and Labour Market Studies.

Germany: The German data utilized Allgemeine Ortskrankenkasse (AOK) Plus claims data collected from two regions, Saxony and Thuringia. This dataset comprised anonymized patient-level information on socio-demographics, history of co-diagnoses, inpatient care, outpatient care, and dispensation of outpatient medications.

Supplementary appendix 2: Country-specific dosing methods

Sweden: Loading and maintenance doses were derived using prescribing physician notes accompanying each dispensation, containing detailed dosing instructions. Loading doses were determined at cohort entry, while maintenance doses were taken from the first dispensation after the loading period. Loading periods, defined as time from cohort entry date, were as follows: Secukinumab - first 5 weeks; Guselkumab - first 4 weeks; Ixekizumab - first 4 weeks.

Germany: Loading and maintenance doses were estimated based on the total drug dispensed and dispensation intervals. Loading doses were calculated from the time between the cohort entry and the second dispensation within the loading period (for patients with at least two dispensations), while maintenance doses were calculated from the time between the first and second dispensations after the loading period (for patients with at least two dispensations). Dose estimates were categorized within ±50% of the recommended dose ranges for each drug (**Supplementary Table 3**). Loading periods, defined as time from cohort entry date, were as follows: Secukinumab - First 5 weeks; Guselkumab - First 4 weeks; Ixekizumab - First 4 weeks and first 12 weeks. Unlike in Sweden, in Germany, two loading periods were considered for Ixekizumab; this was to evaluate the impact of having co-diagnosed psoriasis (PSO) on the choice of dose regimen. This approach was necessary to ensure measurement precision, considering the differing guidelines for treating psoriatic arthritis (PsA) (4 weeks) and PSO (12 weeks), as well as the lack of reliance on physician notes with explicitly stated dosing regimens.

Table S1: Biologic or targeted synthetic disease-modifying anti-rheumatic drug of interest

Drug	ATC code	Mode of action
Abatacept	L04AA24	T-cell costimulatory signal inhibitor
Adalimumab	L04AB04	TNF inhibitor
Certolizumab pegol	L04AB05	TNF inhibitor
Etanercept	L04AB01	TNF inhibitor
Golimumab	L04AB06	TNF inhibitor
Guselkumab	L04AC16[a]	IL-23 inhibitor
Infliximab	L04AB02	TNF inhibitor
Ixekizumab	L04AC13[a]	IL-17 inhibitor
Risankizumab	L04AC18[b]	IL-23 inhibitor
Secukinumab	L04AC10	IL-17 inhibitor
Ustekinumab	L04AC05	IL-12 and IL-23 inhibitor
Tofacitinib Citrate	L04AA29	JAK inhibitor
Upadacitinib	L04AA44	JAK inhibitor
Apremilast	L04AA32	PDE4 inhibitor

Abbreviations: ATC = Anatomical Therapeutic Chemical classification system, b/tsDMARD = Biological or targeted synthetic disease-modifying anti-rheumatic drug, JAK = Janus kinase, IL = Interleukin, PDE4 = Phosphodiesterase-4, TNF = Tumor necrosis factor. [a](German modification of ICD-10 catalog) are available only from 2019, [b](German modification of ICD-10 catalog) are available only from 2020.

Table S2: Variables included in the patient characteristics

Age	Defined at cohort entry date/year
Sex	Female, male (defined at cohort entry date)
Income	Sweden only, defined as the disposable income in the year prior to the cohort entry date): income (EUROs 2021)
Education	Sweden only, defined as the highest education level in the year prior to the cohort entry date: less than high school, high school, greater than high school
Insurance type	Germany only, defined in the year prior to the cohort entry date): employed, unemployed, insured voluntarily, family-insured, other, pensioner, pensioner applicant
Long-term care level	German only, defined in the year prior to the cohort entry date): minor (care level 1) to severe (care level 5) impairment of independence or abilities (with special requirements for nursing care), or none
Region of residence	Sweden defined as the 21 regions in Sweden, defined at cohort entry date): Stockholm, Uppsala, Södermanland, Östergötland, Jönköping, Kronoberg, Kalmar, Gotland, Blekinge, Skåne, Halland, Västra Götaland, Värmland, Örebro, Västmanland, Dalarna, Gävleborg, Västernorrland, Jämtland, Västerbotten, Norrbotten
Index b/tsDMARD mode of action (and type) (defined at cohort entry date)	Anti-IL17 (ixekizumab, secukinumab), anti-IL23 (guselkumab, risankizumab), anti-IL12/23 (ustekinumab), anti-tumor necrosis factor (adalimumab, certolizumab pegol, etanercept, golimumab, infliximab), T-cell costimulatory signal inhibitor (abatacept), PDE4 (apremilast), and janus kinase inhibitor (tofacitinib citrate, upadacitinib)
History of b/tsDMARD treatment (defined using the look back period)	b/tsDMARD experienced vs. b/tsDMARD naïve, and number of b/tsDMARD treatments received (treatment line)
Route of administration of index b/tsDMARD (defined at cohort entry date)	Injection, infusion, orally.
Type of prescribing physician (defined by the type of physician who prescribed the index b/tsDMARD, defined at cohort entry date)	Rheumatologist, dermatologist, general practitioner, orthopedic surgeon/ orthopedist, other
Co-diagnoses (defined as ≥1 diagnosis within the covariate assessment window)	Allergy, asthma, inflammatory bowel disease, fibromyalgia, psoriasis, hidradenitis suppurativa, systemic lupus erythematosus, enthesitis, uveitis, oligoarthritis, dactylitis, rheumatoid arthritis, axSpA (for PsA cohort analyses), PsA (for axSpA cohort analyses), urethritis, osteoarthritis, anxiety, osteoporosis, depression, diabetes, fatigue, hyperlipidemia, pregnancy, obesity, joint pain, lower back pain, liver disease, chronic kidney disease, malignancies, sleep apnea, metabolic syndrome, cardiovascular disease (defined as a composite of cardiovascular disorders (incl. angina pectoris, cerebrovascular disease, congestive heart failure, coronary artery disease, myocardial infarction, peripheral vascular disease), hypertension
History of medications (defined as ≥1 prescription within the covariate assessment window)	Nonsteroidal anti-inflammatory drugs (excluding topicals), opioids, corticosteroids (including topicals), hydroxychloroquine, leflunomide, methotrexate, sulfasalazine. Medication information will be based on ATC codes (for Germany also OPS codes are considered).

Abbreviations: ATC = Anatomical therapeutic chemical, axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, IL = Interleukin, OPS = Operation and procedure codes, PDE4 = Phosphodiesterase-4, PsA = Psoriatic arthritis.

Table S3: Dose category assignment per drug of interest (German analysis)

Secukinumab		**Guselkumab**		**Ixekizumab**	
Computed weekly or monthly dose	Assigned category	Computed weekly or monthly dose	Assigned category	Computed weekly or monthly dose	Assigned category
<75 mg	Unknown[a]	<25 mg	Unknown[a]	<40 mg	Unknown[a]
75–225 mg	150 mg	25–75 mg	50 mg	40–120 mg	80 mg
>225 mg	300 mg	>75 mg	100 mg	>120 mg	160 mg

Abbreviations: mg = milligram. [a]For patients where dose was not computable (e.g., with only one dispensation), dose was assigned to the unknown category.

Table S4: Prescriber specialties by b/tsDMARD for patients with PsA and axSpA in Sweden and Germany

	Sweden				Germany			
	PsA		axSpA		PsA		axSpA	
	Rheumatologist	Dermatologist	Rheumatologist	Dermatologist	Rheumatologist	Dermatologist	Rheumatologist	Dermatologist
Total	67.23%	13.26%	77.02%	1.09%	54.33%	24.79%	67.08%	1.59%
Abatacept	77.54%	0.00%	-	-	86.21%	0.00%	-	-
Adalimumab	65.19%	13.73%	74.19%	0.89%	61.52%	14.59%	65.13%	2.38%
Certolizumab pegol	84.83%	5.06%	83.01%	0.00%	59.72%	12.50%	72.39%	0.00%
Etanercept	75.00%	5.38%	80.29%	0.53%	70.98%	5.88%	73.40%	0.25%
Golimumab	78.70%	0.93%	82.28%	0.00%	52.50%	2.50%	65.09%	0.00%
Guselkumab	-	-	-	-	9.62%	85.58%	-	-
Infliximab	-	-	-	-	66.67%	0.00%	20.51%	0.00%
Ixekizumab	34.10%	52.02%	-	-	30.26%	53.29%	55.00%	15.00%
Risankizumab	-	-	-	-	0.00%	95.74%	-	-
Secukinumab	70.95%	12.75%	84.96%	1.24%	56.74%	17.42%	67.55%	2.26%
Ustekinumab	30.32%	38.91%	-	-	50.76%	25.00%	-	-
Tofacitinib citrate	86.27%	0.49%	-	-	75.38%	6.15%	68.57%	2.86%
Upadacitinib	-	-	-	-	78.38%	5.41%	72.97%	0.00%
Apremilast	58.42%	23.54%	75.24%	14.29%	51.29%	35.79%	-	-

Abbreviations: axSpA = Axial spondyloarthritis, PsA = Psoriatic arthritis

Table S5: Characteristics of patients with PsA and axSpA in Sweden and Germany including all observed co-diagnoses

	PsA				axSpA			
	Sweden (N=9,414)		Germany (N=2,045)		Sweden (N=7,763)		Germany (N=1,756)	
Sex								
Males (n, %)	4,229	44.92%	839	41.03%	3,764	48.49%	847	48.23%
Females (n, %)	5,185	55.08%	1,206	58.97%	3,999	51.51%	909	51.77%
Age, years (Mean, SD)	52.72	13.71	54.03	12.51	45.07	14.22	47.71	13.39
≥18–<35 (n, %)	1,109	11.78%	173	8.46%	2,228	28.70%	332	18.91%
≥35–<50 (n, %)	2,744	29.15%	476	23.28%	2,694	34.70%	607	34.57%
≥50–<65 (n, %)	3,717	39.48%	1,015	49.63%	2,067	26.63%	651	37.07%
≥65–<80 (n, %)	1,731	18.39%	337	16.48%	745	9.60%	149	8.49%
≥80 (n, %)	113	1.20%	44	2.15%	29	0.37%	17	0.97%
b/tsDMARD experience (n, %)	3,197	33.96%	676	33.06%	2,264	29.16%	466	26.54%
Number of previously received b/tsDMARD treatments during covariate assessment window (Mean, SD)	0.60	1.05	0.40	0.62	0.46	0.88	0.29	0.52
Anti-IL17A (n, %)	1,075	11.42%	508	24.84%	676	8.71%	285	16.23%
Ixekizumab (n, %)	173	1.84%	152	7.43%	31	0.40%	20	1.14%
Secukinumab (n, %)	902	9.58%	356	17.41%	645	8.31%	265	15.09%
Anti-IL23 (n, %)	90	0.96%	151	7.38%	6	0.08%	-	-
Guselkumab (n, %)	61	0.65%	104	5.09%	4	0.05%	-	-
Risankizumab (n, %)	29	0.31%	47	2.30%	2	0.03%	-	-
Anti-IL12/23 (n, %)	221	2.35%	132	6.45%	77	0.99%	-	-
Ustekinumab (n, %)	221	2.35%	132	6.45%	77	0.99%	-	-
Anti-TNF (n, %)	6,705	71.22%	852	41.66%	6,709	86.42%	1,399	79.67%
Adalimumab (n, %)	3,758	39.92%	473	23.13%	4,045	52.11%	714	40.66%
Certolizumab Pegol (n, %)	178	1.89%	72	3.52%	259	3.34%	134	7.63%
Etanercept (n, %)	2,656	28.21%	255	12.47%	2,243	28.89%	406	23.12%
Golimumab (n, %)	108	1.15%	40	1.96%	158	2.04%	106	6.04%
Infliximab (n, %)	5	0.05%	12	0.59%	4	0.05%	39	2.22%
T-cell costimulatory signal inhibitor (n, %)	138	1.47%	29	1.42%	56	0.72%	-	-
Abatacept (n, %)	138	1.47%	29	1.42%	56	0.72%	-	-
JAK inhibitor (n, %)	276	2.93%	102	4.99%	134	1.73%	72	4.10%
Tofacitinib citrate (n, %)	204	2.17%	65	3.18%	80	1.03%	35	1.99%
Upadacitinib (n, %)	72	0.76%	37	1.81%	54	0.70%	37	2.11%

PDE4 inhibitor (n, %)	909	9.66%	271	13.25%	105	1.35%	-	-
Apremilast (n, %)	909	9.66%	271	13.25%	105	1.35%	-	-
Prescriber specialty								
Rheumatologist (n, %)	6,329	67.23%	1,111	54.33%	5,979	77.02%	1,178	67.08%
Dermatologist (n, %)	1,248	13.26%	507	24.79%	85	1.09%	28	1.59%
Orthopedist (n, %)	0	0.00%	12	0.59%	1	0.01%	15	0.85%
General practitioner (n, %)	296	3.14%	277	13.55%	236	3.04%	343	19.53%
Other (n, %)	2,819	29.94%	440	21.52%	2,617	33.71%	563	32.06%
Mode of administration								
Injection (n, %)	8,223	87.35%	1,658	81.08%	7,520	96.87%	1,647	93.79%
Infusion (n, %)	6	0.06%	14	0.68%	4	0.05%	37	2.11%
Orally (n, %)	1,185	12.59%	373	18.24%	239	3.08%	72	4.10%
History of medications received in covariate assessment window (Mean, SD)	3.98	0.99	2.76	1.03	3.38	1.12	2.36	1.04
NSAIDs (excluding topicals) (n, %)	9,262	98.39%	1,706	83.42%	7,673	98.84%	1,582	90.09%
Opioids (n, %)	6,818	72.42%	748	36.58%	5,500	70.85%	673	38.33%
Corticosteroids (including topicals) (n, %)	9,243	98.18%	1,779	86.99%	7,111	91.60%	1,331	75.80%
Hydroxychloroquine (n, %)	490	5.21%	29	1.42%	301	3.88%	24	1.37%
Leflunomide (n, %)	965	10.25%	200	9.78%	249	3.21%	71	4.04%
Methotrexate (n, %)	7,849	83.38%	1,187	58.04%	2,863	36.88%	456	25.97%
Sulfasalazine (n, %)	2,878	30.57%	1	0.05%	2,554	32.90%	10	0.57%
Co-diagnoses								
Allergy (n, %)	519	5.51%	474	23.18%	455	5.86%	386	21.98%
Asthma (n, %)	767	8.15%	338	16.53%	612	7.88%	246	14.01%
PsA (n, %)	-	-	-	-	1,188	15.30%	402	22.89%
axSpA (n, %)	1,188	12.62%	358	17.51%	-	-	-	-
Inflammatory bowel disease (n, %)	426	4.53%	62	3.03%	720	9.27%	209	11.90%
Rheumatoid arthritis (n, %)	1,615	17.16%	1,146	56.04%	1,055	13.59%	891	50.74%
Psoriasis (n, %)	5,915	62.83%	1,835	89.73%	828	10.67%	428	24.37%
Hidradenitis suppurativa (n, %)	97	1.03%	20	0.98%	96	1.24%	20	1.14%
Uveitis (n, %)	401	4.26%	33	1.61%	1,593	20.52%	209	11.90%
Systemic lupus erythematosus (n, %)	35	0.37%	11	0.54%	36	0.46%	7	0.40%
Fibromyalgia (n, %)	482	5.12%	69	3.37%	319	4.11%	56	3.19%
Enthesitis (n, %)	55	0.58%	24	1.17%	38	0.49%	39	2.22%
Oligoarthritis (n, %)	94	1.00%	0	0.00%	84	1.08%	4	0.23%
Urethritis (n, %)	94	1.00%	8	0.39%	127	1.64%	10	0.57%
Dactylitis (n, %)	257	2.73%	72	3.52%	154	1.98%	38	2.16%

Osteoarthritis (n, %)	2,118	22.50%	1,118	54.67%	1,064	13.71%	768	43.74%
Anxiety (n, %)	1,004	10.66%	543	26.55%	774	9.97%	443	25.23%
Cardiovascular disease (n, %)	1,375	14.61%	535	26.16%	799	10.29%	315	17.94%
Osteoporosis (n, %)	255	2.71%	312	15.26%	159	2.05%	260	14.81%
Depression (n, %)	1,093	11.61%	685	33.50%	796	10.25%	503	28.64%
Diabetes (n, %)	850	9.03%	450	22.00%	300	3.86%	193	10.99%
Fatigue (n, %)	377	4.00%	211	10.32%	282	3.63%	198	11.28%
Hyperlipidemia (n, %)	628	6.67%	654	31.98%	220	2.83%	397	22.61%
Obesity (n, %)	977	10.38%	696	34.03%	480	6.18%	435	24.77%
Joint pain (n, %)	2,329	24.74%	851	41.61%	1,697	21.86%	648	36.90%
Lower back pain (n, %)	799	8.49%	642	31.39%	976	12.57%	719	40.95%
Liver disease (n, %)	254	2.70%	440	21.52%	94	1.21%	267	15.21%
Chronic kidney disease (n, %)	156	1.66%	238	11.64%	80	1.03%	115	6.55%
Malignancies (n, %)	803	8.53%	168	8.22%	410	5.28%	101	5.75%
Sleep apnea (n, %)	679	7.21%	268	13.11%	376	4.84%	199	11.33%
Metabolic syndrome (n, %)	28	0.30%	97	4.74%	15	0.19%	75	4.27%
Hypertension (n, %)	2,133	22.66%	1,233	60.29%	1,017	13.10%	784	44.65%

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biologic disease-modifying anti-rheumatic drugs, cDMARD = Conventional DMARD, IL = Interleukin, JAK = Janus kinase, N = Number, NSAIDs = Nonsteroidal anti-inflammatory drugs, PDE4 = Phosphodiesterase-4, PsA = Psoriatic arthritis, SD = Standard deviation, TNF = Tumor necrosis factor.

Table S6: Characteristics of patients with PsA and subgroups in Sweden

		Patients with PsA					
		Total		PsA + PSO		PsA-only	
	Number of patients	9,414		5,915		3,499	
Sex	Males (n, %)	4,229	44.92%	2,810	47.51%	1,419	40.55%
	Females (n, %)	5,185	55.08%	3,105	52.49%	2,080	59.45%
Age	Age (Mean, SD)	52.72	13.71	53.16	13.92	51.99	13.33
	Age (Median, IQR)	53.37	18.92	53.90	19.83	52.57	17.20
	≥18-<35 (n, %)	1,109	11.78%	694	11.73%	415	11.86%
	≥35-<50 (n, %)	2,744	29.15%	1,677	28.35%	1,067	30.49%
	≥50-<65 (n, %)	3,717	39.48%	2,300	38.88%	1,417	40.50%
	≥65-<80 (n, %)	1,731	18.39%	1,167	19.73%	564	16.12%
	≥80 (n, %)	113	1.20%	77	1.30%	36	1.03%
Place of residence at cohort entry date[a]	Stockholm	2,443	25.95%	1,443	24.40%	1,000	28.59%
	Uppsala	291	3.09%	187	3.16%	104	2.97%
	Södermanland	306	3.25%	222	3.75%	84	2.40%
	Östergötland	455	4.83%	255	4.31%	200	5.72%
	Jönköping	264	2.80%	196	3.31%	68	1.94%
	Kronoberg	174	1.85%	116	1.96%	58	1.66%
	Kalmar	223	2.37%	155	2.62%	68	1.94%
	Gotland	123	1.31%	63	1.07%	60	1.72%
	Blekinge	147	1.56%	123	2.08%	24	0.69%
	Skåne	1,202	12.77%	794	13.42%	408	11.66%
	Halland	333	3.54%	217	3.67%	116	3.32%
	Västra Götaland	1,183	12.57%	801	13.54%	382	10.92%
	Värmland	319	3.39%	229	3.87%	90	2.57%
	Örebro	239	2.54%	162	2.74%	77	2.20%
	Västmanland	315	3.35%	189	3.20%	126	3.60%
	Dalarna	155	1.65%	94	1.59%	61	1.74%
	Gävleborg	283	3.01%	154	2.60%	129	3.69%
	Västernorrland	330	3.51%	170	2.87%	160	4.57%
	Jämtland	177	1.88%	90	1.52%	87	2.49%
	Västerbotten	183	1.94%	109	1.84%	74	2.12%
	Norrbotten	268	2.85%	146	2.47%	122	3.49%
Highest education[a] (n, %)	Below high school	1,430	15.28%	968	16.45%	462	13.29%
	High school	4,814	51.43%	3,082	52.38%	1,732	49.83%

		Patients with PsA					
		Total		PsA + PSO		PsA-only	
	Above high school	3,116	33.29%	1,834	31.17%	1,282	36.88%
Income[a] (Mean, SD)	Disposable income (for individuals; € 2021)	30,800	49,243	29,902	46,978	32,319	52,825
b/tsDMARD (n, %)	b/tsDMARD experience (n, %)	3,197	33.96%	2,111	35.69%	1,086	31.04%
	Number of previously received b/tsDMARD treatments during covariate assessment window (Mean, SD)	0.60	1.05	0.63	1.07	0.54	0.99
b/tsDMARDs at cohort entry	**Anti-IL17** A (n, %)	1,075	11.42%	767	12.97%	308	8.80%
	Ixekizumab (n, %)	173	1.84%	147	2.49%	26	0.74%
	Secukinumab (n, %)	902	9.58%	620	10.48%	282	8.06%
	Anti-IL23 (n, %)	90	0.96%	87	1.47%	3	0.09%
	Guselkumab (n, %)	61	0.65%	58	0.98%	3	0.09%
	Risankizumab (n, %)	29	0.31%	29	0.49%	0	0.00%
	Anti-IL12/23 (n, %)	221	2.35%	180	3.04%	41	1.17%
	Ustekinumab (n, %)	221	2.35%	180	3.04%	41	1.17%
	Anti-TNF (n, %)	6,705	71.22%	4,022	68.00%	2,683	76.68%
	Adalimumab (n, %)	3,758	39.92%	2,375	40.15%	1,383	39.53%
	Certolizumab Pegol (n, %)	178	1.89%	99	1.67%	79	2.26%
	Etanercept (n, %)	2,656	28.21%	1,487	25.14%	1,169	33.41%
	Golimumab (n, %)	108	1.15%	59	1.00%	49	1.40%
	Infliximab (n, %)	5	0.05%	2	0.03%	3	0.09%
	T cell costimulatory signal inhibitor (n, %)	138	1.47%	70	1.18%	68	1.94%
	Abatacept (n, %)	138	1.47%	70	1.18%	68	1.94%
	JAK inhibitor (n, %)	276	2.93%	155	2.62%	121	3.46%
	Tofacitinib citrate (n, %)	204	2.17%	117	1.98%	87	2.49%
	Upadacitinib (n, %)	72	0.76%	38	0.64%	34	0.97%
	PDE4 inhibitor (n, %)	909	9.66%	634	10.72%	275	7.86%
	Apremilast (n, %)	909	9.66%	634	10.72%	275	7.86%
Prescriber specialty	Rheumatologist (n, %)	6,329	67.23%	3,504	59.24%	2,825	80.74%
	Dermatologist (n, %)	1,248	13.26%	1,212	20.49%	36	1.03%
	Orthopedist (n, %)	0	0.00%	0	0.00%	0	0.00%
	General practitioner (n, %)	296	3.14%	171	2.89%	125	3.57%
	Other (n, %)	2,819	29.94%	1,564	26.44%	1,255	35.87%
Route of administration	Injection (n, %)	8,223	87.35%	5,123	86.61%	3,100	88.60%
	Infusion (n, %)	6	0.06%	3	0.05%	3	0.09%
	Orally (n, %)	1,185	12.59%	789	13.34%	396	11.32%

		Patients with PsA					
		Total		PsA + PSO		PsA-only	
History of medications	History of medications received in in covariate assessment window (Mean, SD)	3.98	0.99	3.93	0.95	4.07	1.04
	NSAIDs (excluding topicals) (n, %)	9,262	98.39%	5,800	98.06%	3,462	98.94%
	Opioids (n, %)	6,818	72.42%	4,272	72.22%	2,546	72.76%
	Corticosteroids (including topicals) (n, %)	9,243	98.18%	5,856	99.00%	3,387	96.80%
Conventional DMARD (cDMARD)	Hydroxychloroquine (n, %)	490	5.21%	203	3.43%	287	8.20%
	Leflunomide (n, %)	965	10.25%	569	9.62%	396	11.32%
	Methotrexate (n, %)	7,849	83.38%	5,017	84.82%	2,832	80.94%
	Sulfasalazine (n, %)	2,878	30.57%	1,542	26.07%	1,336	38.18%
Co-diagnoses	Allergy (n, %)	519	5.51%	310	5.24%	209	5.97%
	Asthma (n, %)	767	8.15%	502	8.49%	265	7.57%
	PsA (n, %)	-	-	-	-	-	-
	axSpA (n, %)	1,188	12.62%	562	9.50%	626	17.89%
	Inflammatory bowel disease (n, %)	426	4.53%	239	4.04%	187	5.34%
	Rheumatoid arthritis (n, %)	1,615	17.16%	846	14.30%	769	21.98%
	PSO (n, %)	5,915	62.83%	5,915	100.00%	0	0.00%
	Hidradenitis suppurativa (n, %)	97	1.03%	76	1.28%	21	0.60%
	Systemic lupus erythematosus (n, %)	35	0.37%	18	0.30%	17	0.49%
	Uveitis (n, %)	401	4.26%	230	3.89%	171	4.89%
	Fibromyalgia (n, %)	482	5.12%	292	4.94%	190	5.43%
	Enthesitis (n, %)	55	0.58%	28	0.47%	27	0.77%
	Oligoarthritis (n, %)	94	1.00%	47	0.79%	47	1.34%
	Urethritis (n, %)	94	1.00%	54	0.91%	40	1.14%
	Dactylitis (n, %)	257	2.73%	175	2.96%	82	2.34%
	Osteoarthritis (n, %)	2,118	22.50%	1,304	22.05%	814	23.26%
	Anxiety (n, %)	1,004	10.66%	669	11.31%	335	9.57%
	Cardiovascular disease (n, %)	1,375	14.61%	934	15.79%	441	12.60%
	Osteoporosis (n, %)	255	2.71%	154	2.60%	101	2.89%
	Depression (n, %)	1,093	11.61%	722	12.21%	371	10.60%
	Diabetes (n, %)	850	9.03%	609	10.30%	241	6.89%
	Fatigue (n, %)	377	4.00%	249	4.21%	128	3.66%
	Hyperlipidemia (n, %)	628	6.67%	431	7.29%	197	5.63%
	Obesity (n, %)	977	10.38%	675	11.41%	302	8.63%
	Joint pain (n, %)	2,329	24.74%	1,408	23.80%	921	26.32%
	Lower back pain (n, %)	799	8.49%	490	8.28%	309	8.83%

		Patients with PsA					
		Total		PsA + PSO		PsA-only	
	Liver disease (n, %)	254	2.70%	196	3.31%	58	1.66%
	Chronic kidney disease (n, %)	156	1.66%	111	1.88%	45	1.29%
	Malignancies (n, %)	803	8.53%	565	9.55%	238	6.80%
	Sleep apnea (n, %)	679	7.21%	455	7.69%	224	6.40%
	Metabolic syndrome (n, %)	28	0.30%	19	0.32%	9	0.26%
	Hypertension (n, %)	2,133	22.66%	1,431	24.19%	702	20.06%

[a]These variables included in patient characteristics are available in Sweden only.

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, IL = Interleukin, IQR = Interquartile range, JAK = Janus kinase, n = Number, NSAIDs = Nonsteroidal anti-inflammatory drugs, PDE4 = Phosphodiesterase-4, PsA = Psoriatic arthritis, PSO = Psoriasis, SD = Standard deviation, TNF = Tumor necrosis factor.

Table S7: Characteristics of patients with axSpA and subgroups in Sweden

		Patients with axSpA					
		Total		axSpA+ PsA/PSO		axSpA-only	
	Number of patients	7,763		1,454		6,309	
Sex	Males (n, %)	3,764	48.49%	615	42.30%	3,149	49.91%
	Females (n, %)	3,999	51.51%	839	57.70%	3,160	50.09%
Age	Age (Mean, SD)	45.07	14.22	50.55	13.65	43.81	14.06%
	Age (Median, IQR)	44.39	21.85	50.94	19.82	42.66	21.43%
	≥18-<35 (n, %)	2,228	28.70%	222	15.27%	2,006	31.80%
	≥35-<50 (n, %)	2,694	34.70%%	472	32.46%	2,222	35.22%
	≥50-<65 (n, %)	2,067	26.63%	527	36.24%	1,540	24.41%
	≥65-<80 (n, %)	745	9.60%	223	15.34%	522	8.27%
	≥80 (n, %)	29	0.37%	10	0.69%	19	0.30%
Place of residence at cohort entry date[a]	Stockholm	1,863	24.01%	364	25.05%	1,499	23.77%
	Uppsala	290	3.74%	51	3.51%	239	3.79%
	Södermanland	219	2.82%	56	3.85%	163	2.59%
	Östergötland	457	5.89%	79	5.44%	378	6.00%
	Jönköping	214	2.76%	29	2.00%	185	2.93%
	Kronoberg	181	2.33%	30	2.06%	151	2.39%
	Kalmar	134	1.73%	26	1.79%	108	1.71%
	Gotland	56	0.72%	19	1.31%	37	0.59%
	Blekinge	104	1.34%	23	1.58%	81	1.28%
	Skåne	872	11.24%	159	10.94%	713	11.31%
	Halland	320	4.12%	66	4.54%	254	4.03%
	Västra Götaland	1,064	13.71%	203	13.97%	861	13.66%
	Värmland	223	2.87%	44	3.03%	179	2.84%
	Örebro	276	3.56%	31	2.13%	245	3.89%
	Västmanland	299	3.85%	58	3.99%	241	3.82%
	Dalarna	158	2.04%	21	1.45%	137	2.17%
	Gävleborg	298	3.84%	58	3.99%	240	3.81%
	Västernorrland	187	2.41%	44	3.03%	143	2.27%
	Jämtland	128	1.65%	30	2.06%	98	1.55%
	Västerbotten	155	2.00%	18	1.24%	137	2.17%
	Norrbotten	260	3.35%	44	3.03%	216	3.43%
Highest education[a] (n, %)	Below high school	953	12.37%	181	12.49%	772	12.34%
	High school	3,731	48.42%	730	50.38%	3,001	47.97%
	Above high school	3,021	39.21%	538	37.13%	2,483	39.69%

		Patients with axSpA					
		Total		axSpA+ PsA/PSO		axSpA-only	
Income[a] (Mean, SD)	Disposable income (for individuals; € 2021)	30,287	31,524	29,919	23,498	30,372	33,100
b/tsDMARD	b/tsDMARD experience (n, %)	2,264	29.16%	604	41.54%	1,660	26.31%
	Number of previously received b/tsDMARD treatments during covariate assessment window (Mean, SD)	0.46	0.88	0.77	1.18	0.39	0.78
b/tsDMARDs at cohort entry	**Anti-IL17 A** (n, %)	676	8.71%	215	14.79%	461	7.31%
	Ixekizumab (n, %)	31	0.40%	15	1.03%	16	0.25%
	Secukinumab (n, %)	645	8.31%	200	13.76%	445	7.05%
	Anti-IL23 (n, %)	6	0.08%	5	0.34%	1	0.02%
	Guselkumab (n, %)	4	0.05%	3	0.21%	1	0.02%
	Risankizumab (n, %)	2	0.03%	2	0.14%	0	0.00%
	Anti-IL12/23 (n,)	77	0.99%	27	1.86%	50	0.79%
	Ustekinumab (n, %)	77	0.99%	27	1.86%	50	0.79%
	Anti-TNF (n, %)	6,709	86.42%	1,074	73.87%	5,635	89.32%
	Adalimumab (n, %)	4,045	52.11%	612	42.09%	3,433	54.41%
	Certolizumab Pegol (n, %)	259	3.34%	52	3.58%	207	3.28%
	Etanercept (n, %)	2,243	28.89%	373	25.65%	1,870	29.64%
	Golimumab (n, %)	158	2.04%	37	2.54%	121	1.92%
	Infliximab (n, %)	4	0.05%	0	0.00%	4	0.06%
	T-cell costimulatory signal inhibitor (n, %)	56	0.72%	12	0.83%	44	0.70%
	Abatacept (n, %)	56	0.72%	12	0.83%	44	0.70%
	JAK inhibitor (n, %)	134	1.73%	43	2.96%	91	1.44%
	Tofacitinib citrate (n, %)	80	1.03%	33	2.27%	47	0.74%
	Upadacitinib (n, %)	54	0.70%	10	0.69%	44	0.70%
	PDE4 inhibitor (n, %)	105	1.35%	78	5.36%	27	0.43%
	Apremilast (n, %)	105	1.35%	78	5.36%	27	0.43%
Prescriber specialty	Rheumatologist (n, %)	5,979	77.02%	1,110	76.34%	4,869	77.18%
	Dermatologist (n, %)	85	1.09%	75	5.16%	10	0.16%
	Orthopedist (n, %)	1	0.01%	0	0.00%	1	0.02%
	General practitioner (n, %)	236	3.04%	49	3.37%	187	2.96%
	Other (n, %)	2,617	33.71%	517	35.56%	2,100	33.29%
Route of administration	Injection (n, %)	7,520	96.87%	1,333	91.68%	6,187	98.07%
	Infusion (n, %)	4	0.05%	0	0.00%	4	0.06%
	Orally (n, %)	239	3.08%	121	8.32%	118	1.87%
History of medications	History of medications received in covariate assessment window (Mean, SD)	3.38	1.12	3.97	1.04	3.25	1.09

		Patients with axSpA					
		Total		axSpA+ PsA/PSO		axSpA-only	
	NSAIDs (excluding topicals) (n, %)	7,673	98.84%	1,444	99.31%	6,229	98.73%
	Opioids (n, %)	5,500	70.85%	1,166	80.19%	4,334	68.70%
	Corticosteroids (including topicals) (n, %)	7,673	98.84%	1,430	98.35%	5,681	90.05%
Conventional DMARD (cDMARD)	Hydroxychloroquine (n, %)	301	3.88%	93	6.40%	208	3.30%
	Leflunomide (n, %)	249	3.21%	109	7.50%	140	2.22%
	Methotrexate (n, %)	2,863	36.88%	973	66.92%	1,890	29.96%
	Sulfasalazine (n, %)	2,554	32.90%	551	37.90%	2,003	31.75
Co-diagnoses	Allergy (n, %)	455	5.86%	98	6.74%	357	5.66%
	Asthma (n, %)	612	7.88%	142	9.77%	470	7.45%
	PsA (n, %)	1,188	15.30%	1,188	81.71%	0	0.00%
	axSpA (n, %)	-	-	-	-	-	-
	Inflammatory bowel disease (n, %)	720	9.27%	143	9.83%	577	9.15%
	Rheumatoid arthritis (n, %)	1,055	13.59%	302	20.77%	753	11.94%
	PSO (n, %)	828	10.67%	828	56.95%	0	0.00%
	Hidradenitis suppurativa (n, %)	96	1.24%	28	1.93%	68	1.08%
	Systemic lupus erythematosus (n, %)	36	0.46%	6	0.41%	30	0.48%
	Uveitis (n, %)	1,593	20.52%	195	13.41%	1,398	22.16%
	Enthesitis (n, %)	38	0.49%	7	0.48%	31	0.49%
	Fibromyalgia (n, %)	319	4.11%	93	6.40%	226	3.58%
	Oligoarthritis (n, %)	84	1.08%	14	0.96%	70	1.11%
	Urethritis (n, %)	127	1.64%	19	1.31%	108	1.71%
	Dactylitis (n, %)	154	1.98%	41	2.82%	113	1.79%
	Osteoarthritis (n, %)	1,064	13.71%	335	23.04%	729	11.55%
	Anxiety (n, %)	774	9.97%	163	11.21%	611	9.68%
	Cardiovascular disease (n, %)	799	10.29%	218	14.99%	581	9.21%
	Osteoporosis (n, %)	159	2.05%	45	3.09%	114	1.81%
	Depression (n, %)	796	10.25%	166	11.42%	630	9.99%
	Diabetes (n, %)	300	3.86%	100	6.88%	200	3.17%
	Fatigue (n, %)	282	3.63%	83	5.71%	199	3.15%
	Hyperlipidemia (n, %)	220	2.83%	84	5.78%	136	2.16%
	Obesity (n, %)	480	6.18%	115	7.91%	365	5.79%
	Joint pain (n,)	1,697	21.86%	427	29.37%	1,270	20.13%
	Lower back pain (n,)	976	12.57%	200	13.76%	776	12.30%
	Liver disease (n, %)	94	1.21%	29	1.99%	65	1.03%
	Chronic kidney disease (n, %)	80	1.03%	21	1.44%	59	0.94%

		Patients with axSpA					
		Total		axSpA+ PsA/PSO		axSpA-only	
	Malignancies (n,)	410	5.28%	106	7.29%	304	4.82%
	Sleep apnea (n, %)	376	4.84%	115	7.91%	261	4.14%
	Metabolic syndrome (n, %)	15	0.19%	3	0.21%	12	0.19%
	Hypertension (n, %)	1,017	13.10%	306	21.05%	711	11.27%

[a]These variables included in patient characteristics are available in Sweden only.

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, IL = Interleukin, IQR = Interquartile range, JAK= Janus kinase, n = Number, NSAIDs = Nonsteroidal anti-inflammatory drugs, PDE4 = Phosphodiesterase-4, PsA = Psoriatic arthritis, PSO = Psoriasis, SD = Standard deviation, TNF = Tumor necrosis factor.

Table S8: Characteristics of patients with PsA and subgroups in Germany

		Patients with PsA					
		Total		PsA+PSO		PsA-only	
	Number of patients	2,045		1,835		210	
Sex	Males (n, %)	839	41.03%	767	41.80%	72	34.29%
	Females (n, %)	1,206	58.97%	1,068	58.20%	138	65.71%
Age	Age (Mean, SD)	54.03	12.51	54.30	12.56	51.69	11.81
	Age (Median, IQR)	55.00	16.00	56.00	17.00	53.00	19.00
	≥18-<35 (n, %)	173	8.46%	155	8.45%	18	8.57%
	≥35-<50 (n, %)	476	23.28%	411	22.40%	65	30.95%
	≥50-<65 (n, %)	1,015	49.63%	912	49.70%	103	49.05%
	≥65-<80 (n, %)	337	16.48%	315	17.17%	22	10.48%
	≥80 (n, %)	44	2.15%	42	2.29%	2	0.95%
Insurance Type[a]	Employed (n, %)	1,067	52.18%	937	51.06%	130	61.90%
	Pension applicant (n, %)	10	0.49%	8	0.44%	2	0.95%
	Pensioner (n, %)	626	30.61%	575	31.34%	51	24.29%
	Unemployed (n, %)	202	9.88%	183	9.97%	19	9.05%
	Insured voluntarily (n, %)	92	4.50%	88	4.80%	4	1.90%
	Other (n, %)	15	0.73%	14	0.76%	1	0.48%
	Family-insured (n, %)	33	1.61%	30	1.63%	3	1.43%
Care level[a,b]	Care level 1 (n, %)	21	1.03%	20	1.09%	1	0.48%
	Care level 2 (n,)	70	3.42%	61	3.32%	9	4.29%
	Care level 3 (n, %)	28	1.37%	28	1.53%	0	0.00%
	Care level 4 (n, %)	2	0.10%	2	0.11%	0	0.00%
	Care level 5 (n, %)	1	0.05%	1	0.05%	0	0.00%
	None (n, %)	1,923	94.03%	1,723	93.90%	200	95.24%
b/tsDMARD	b/tsDMARD experience (n, %)	676	33.06%	621	33.84%	55	26.19%
	Number of previously received b/tsDMARD treatments during covariate assessment window (Mean, SD)	0.40	0.62	0.40	0.62	0.33	0.61
b/tsDMARDs at cohort entry	**Anti-IL17 A** (n, %)	508	24.84%	476	25.94%	32	15.24%
	Ixekizumab (n, %)	152	7.43%	149	8.12%	3	1.43%
	Secukinumab (n, %)	356	17.41%	327	17.82%	29	13.81%
	Anti-IL23 (n, %)	151	7.38%	151	8.23%	0	0.00%
	Guselkumab (n, %)	104	5.09%	104	5.67%	0	0.00%
	Risankizumab (n, %)	47	2.30%	47	2.56%	0	0.00%
	Anti-IL12/23 (n, %)	132	6.45%	124	6.76%	8	3.81%

		Patients with PsA					
		Total		**PsA+PSO**		**PsA-only**	
	Ustekinumab (n, %)	132	6.45%	124	6.76%	8	3.81%
	Anti-TNF (n, %)	852	41.66%	723	39.40%	129	61.43%
	Adalimumab (n, %)	473	23.13%	413	22.51%	60	28.57%
	Certolizumab Pegol (n, %)	72	3.52%	62	3.38%	10	4.76%
	Etanercept (n, %)	255	12.47%	208	11.34%	47	22.38%
	Golimumab (n, %)	40	1.96%	31	1.69%	9	4.29%
	Infliximab (n, %)	12	0.59%	9	0.49%	3	1.43%
	T cell costimulatory signal inhibitor (n, %)	29	1.42%	22	1.20%	7	3.33%
	Abatacept (n, %)	29	1.42%	22	1.20%	7	3.33%
	JAK inhibitor (n, %)	102	4.99%	85	4.63%	17	8.10%
	Tofacitinib citrate (n, %)	65	3.18%	57	3.11%	8	3.81%
	Upadacitinib (n, %)	37	1.81%	28	1.53%	9	4.29%
	PDE4 inhibitor (n, %)	271	13.25%	254	13.84%	17	8.10%
	Apremilast (n, %)	271	13.25%	254	13.84%	17	8.10%
Prescriber specialty	Rheumatologist (n, %)	1,111	54.33%	954	51.99%	157	74.76%
	Dermatologist (n, %)	507	24.79%	507	27.63%	0	0.00%
	Orthopedist (n,)	12	0.59%	9	0.49%	3	1.43%
	General practitioner (n, %)	277	13.55%	245	13.35%	32	15.24%
	Other (n, %)	440	21.52%	390	21.25%	50	23.81%
Route of administration	Injection (n, %)	1,658	81.08%	1,485	80.93%	173	82.38%
	Infusion (n, %)	14	0.68%	11	0.60%	3	1.43%
	Orally (n, %)	373	18.24%	339	18.47%	34	16.19%
History of medications	History of medications received in covariate assessment window (Mean, SD)	2.76	1.03	2.73	1.02	3.05	1.09%
	NSAIDs (excluding topicals) (n, %)	1,706	83.42%	1,525	83.11%	181	86.19%
	Opioids (n, %)	748	36.58%	658	35.86%	90	42.86%
	Corticosteroids (including topicals) (n, %)	1,779	86.99%	1,589	86.59%	190	90.48%
Conventional DMARD (cDMARD)	Hydroxychloroquine (n, %)	29	1.42%	20	1.09%	9	4.29%
	Leflunomide (n, %)	200	9.78%	166	9.05%	34	16.19%
	Methotrexate (n, %)	1,187	58.04%	1,051	57.28%	136	64.76%
	Sulfasalazine (n, %)	1	0.05%	1	0.05%	0	0.00%
Co-diagnoses	Allergy (n, %)	474	23.18%	414	22.56%	60	28.57%
	Asthma (n, %)	338	16.53%	298	16.24%	40	19.05%
	axSpA (n, %)	358	17.51%	296	16.13%	62	29.52%

		Patients with PsA					
		Total		PsA+PSO		PsA-only	
	PsA (n, %)	-	-	-	-	-	-
	Inflammatory bowel disease (n, %)	62	3.03%	50	2.72%	12	5.71%
	Rheumatoid arthritis (n, %)	1,146	56.04%	986	53.73%	160	76.19%
	PSO (n, %)	1,835	89.73%	1,835	100.00%	0	0.00%
	Hidradenitis suppurativa (n, %)	20	0.98%	20	1.09%	0	0.00%
	Systemic lupus erythematosus (n, %)	11	0.54%	10	0.54%	1	0.48%
	Uveitis (n, %)	33	1.61%	26	1.42%	7	3.33%
	Fibromyalgia (n, %)	69	3.37%	60	3.27%	9	4.29%
	Enthesitis (n, %)	24	1.17%	23	1.25%	1	0.48%
	Oligoarthritis (n, %)	0	0.00%	0	0.00%	0	0.00%
	Urethritis (n, %)	8	0.39%	7	0.38%	1	0.48%
	Dactylitis (n, %)	72	3.52%	63	3.43%	9	4.29%
	Osteoarthritis (n, %)	1,118	54.67%	1,007	54.88%	111	52.86%
	Anxiety (n, %)	543	26.55%	490	26.70%	53	25.24%
	Osteoporosis (n, %)	312	15.26%	274	14.93%	38	18.10%
	Depression (n, %)	685	33.50%	615	33.51%	70	33.33%
	Diabetes (n, %)	450	22.00%	414	22.56%	36	17.14%
	Fatigue (n, %)	211	10.32%	194	10.57%	17	8.10%
	Hyperlipidemia (n, %)	654	31.98%	592	32.26%	62	29.52%
	Obesity (n, %)	696	34.03%	636	34.66%	60	28.57%
	Joint pain (n, %)	851	41.61%	752	40.98%	99	47.14%
	Lower back pain (n, %)	642	31.39%	568	30.95%	74	35.24%
	Liver disease (n, %)	440	21.52%	405	22.07%	35	16.67%
	Chronic kidney disease (n, %)	238	11.64%	224	12.21%	14	6.67%
	Malignancies (n, %)	168	8.22%	154	8.39%	14	6.67%
	Sleep apnea (n, %)	268	13.11%	247	13.46%	21	10.00%
	Metabolic syndrome (n, %)	97	4.74%	92	5.01%	5	2.38%
	Cardiovascular disease (n, %)	535	26.16%	493	26.87%	42	20.00%
	Hypertension (n, %)	1,233	60.29%	1,115	60.76%	118	56.19%

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, IL = Interleukin, JAK= Janus kinase, n = Number, NSAIDs = Nonsteroidal anti-inflammatory drugs, PDE4 = Phosphodiesterase-4, PsA = Psoriatic arthritis, PSO = Psoriasis, SD = Standard deviation, TNF = Tumor necrosis factor.

[a] These variables included in patient characteristics are available in Germany only.

[b] Long-term care level (defined in the year prior to the cohort entry date): minor (care level 1) to severe (care level 5) impairment of independence or abilities (with special requirements for nursing care), or none.

Table S9: Characteristics of patients with axSpA and subgroups in Germany

		Patients with axSpA					
		Total		axSpA + PsA/PSO		axSpA-only	
	Number of patients	1,756		517		1,239	
Sex	Males (n, %)	847	48.23%	228	44.10%	619	49.96%
	Females (n, %)	909	51.77%	289	55.90%	620	50.04%
Age	Age (Mean, SD)	47.71	13.39	50.91	12.92	46.37	13.36
	Age (Median, IQR)	48.00	21.00	53.00	19.00	46.00	20.00
	≥18-<35 (n, %)	332	18.91%	62	11.99%	270	21.79%
	≥35-<50 (n, %)	607	34.57%	156	30.17%	451	36.40%
	≥50-<65 (n, %)	651	37.07%	241	46.62%	410	33.09%
	≥65-<80 (n, %)	149	8.49%	53	10.25%	96	7.75%
	≥80 (n, %)	17	0.97%	5	0.97%	12	0.97%
Insurance Type[a]	Employed (n, %)	1,111	63.27%	293	56.67%	818	66.02%
	Pension applicant (n, %)	7	0.40%	2	0.39%	5	0.40%
	Pensioner (n, %)	339	19.31%	123	23.79%	216	17.43%
	Unemployed (n, %)	171	9.74%	61	11.80%	110	8.88%
	Insured voluntarily (n, %)	84	4.78%	24	4.64%	60	4.84%
	Other (n, %)	11	0.63%	4	0.77%	7	0.56%
	Family-insured (n, %)	33	1.88%	10	1.93%	23	1.86%
Care level[a,b]	Care level 1 (n, %)	16	0.91%	5	0.97%	11	0.89%
	Care level 2 (n, %)	55	3.13%	24	4.64%	31	2.50%
	Care level 3 (n, %)	16	0.91%	8	1.55%	8	0.65%
	Care level 4 (n, %)	2	0.11%	0	0.00%	2	0.16%
	Care level 5 (n, %)	0	0.00%	0	0.00%	0	0.00%
	None (n, %)	1,667	94.93%	480	92.84%	1,187	95.80%
b/tsDMARD	b/tsDMARD experience (n, %)	466	26.54%	168	32.50%	298	24.05%
	Number of previously received b/tsDMARD treatments during covariate assessment window (Mean, SD)	0.29	0.52	0.38	0.59	0.26	0.48
b/tsDMARDs at cohort entry	**Anti-IL17 A** (n, %)	285	16.23%	144	27.85%	141	11.38%
	Ixekizumab (n, %)	20	1.14%	17	3.29%	3	0.24%
	Secukinumab (n, %)	265	15.09%	127	24.56%	138	11.14%
	Anti-TNF (n, %)	1,399	79.67%	341	65.96%	1,058	85.39%
	Adalimumab (n, %)	714	40.66%	184	35.59%	530	42.78%
	Certolizumab Pegol (n, %)	134	7.63%	32	6.19%	102	8.23%
	Etanercept (n, %)	406	23.12%	100	19.34%	306	24.70%

		Patients with axSpA					
		Total		**axSpA + PsA/PSO**		**axSpA-only**	
	Golimumab (n, %)	106	6.04%	18	3.48%	88	7.10%
	Infliximab (n, %)	39	2.22%	7	1.35%	32	2.58%
	JAK inhibitor (n, %)	72	4.10%	32	6.19%	40	3.23%
	Tofacitinib citrate (n, %)	35	1.99%	19	3.68%	16	1.29%
	Upadacitinib (n, %)	37	2.11%	13	2.51%	24	1.94%
Prescriber specialty	Rheumatologist (n, %)	1,178	67.08%	331	64.02%	847	68.36%
	Dermatologist (n, %)	28	1.59%	26	5.03%	2	0.16%
	Orthopedist (n, %)	15	0.85%	4	0.77%	11	0.89%
	General practitioner (n, %)	343	19.53%	114	22.05%	229	18.48%
	Other (n, %)	563	32.06%	162	31.33%	401	32.36%
Route of administration	Injection (n, %)	1,647	93.79%	479	92.65%	1,168	94.27%
	Infusion (n, %)	37	2.11%	6	1.16%	31	2.50%
	Orally (n, %)	72	4.10%	32	6.19%	40	3.23%
History of medications	History of medications received in covariate assessment window (Mean, SD)	2.36	1.04	2.74	1.03	2.20	1.01
	NSAIDs (excluding topicals) (n, %)	1,582	90.09%	466	90.14%	1,116	90.07%
	Opioids (n, %)	673	38.33%	241	46.62%	432	34.87%
	Corticosteroids (including topicals) (n, %)	1,331	75.80%	453	87.62%	878	70.86%
Conventional DMARD (cDMARD)	Hydroxychloroquine (n, %)	24	1.37%	8	1.55%	16	1.29%
	Leflunomide (n, %)	71	4.04%	32	6.19%	39	3.15%
	Methotrexate (n, %)	456	25.97%	216	41.78%	240	19.37%
	Sulfasalazine (n, %)	10	0.57%	2	0.39%	8	0.65%
Co-diagnoses	Allergy (n, %)	386	21.98%	126	24.37%	260	20.98%
	Asthma (n, %)	246	14.01%	82	15.86%	164	13.24%
	PsA (n, %)	402	22.89%	402	77.76%	0	0.00%
	axSpA (n, %)	-	-	-	-	-	-
	Inflammatory bowel disease (n, %)	209	11.90%	43	8.32%	166	13.40%
	Rheumatoid arthritis (n, %)	891	50.74%	309	59.77%	582	46.97%
	PSO (n, %)	428	24.37%	428	82.79%	0	0.00%
	Hidradenitis suppurativa (n, %)	20	1.14%	11	2.13%	9	0.73%
	Systemic lupus erythematosus (n, %)	7	0.40%	3	0.58%	4	0.32%
	Uveitis (n, %)	209	11.90%	36	6.96%	173	13.96%
	Fibromyalgia (n, %)	56	3.19%	20	3.87%	36	2.91%
	Enthesitis (n, %)	39	2.22%	11	2.13%	28	2.26%

		Patients with axSpA					
		Total		axSpA + PsA/PSO		axSpA-only	
	Oligoarthritis (n, %)	4	0.23%	2	0.39%	2	0.16%
	Urethritis (n, %)	10	0.57%	2	0.39%	8	0.65%
	Dactylitis (n, %)	38	2.16%	20	3.87%	18	1.45%
	Osteoarthritis (n, %)	768	43.74%	279	53.97%	489	39.47%
	Anxiety (n, %)	443	25.23%	136	26.31%	307	24.78%
	Osteoporosis (n, %)	260	14.81%	92	17.79%	168	13.56%
	Depression (n, %)	503	28.64%	174	33.66%	329	26.55%
	Diabetes (n, %)	193	10.99%	75	14.51%	118	9.52%
	Fatigue (n, %)	198	11.28%	62	11.99%	136	10.98%
	Hyperlipidemia (n, %)	397	22.61%	148	28.63%	249	20.10%
	Obesity (n, %)	435	24.77%	144	27.85%	291	23.49%
	Joint pain (n, %)	648	36.90%	226	43.71%	422	34.06%
	Lower back pain (n, %)	719	40.95%	228	44.10%	491	39.63%
	Liver disease (n, %)	267	15.21%	99	19.15%	168	13.56%
	Chronic kidney disease (n, %)	115	6.55%	46	8.90%	69	5.57%
	Malignancies (n, %)	101	5.75%	27	5.22%	74	5.97%
	Sleep apnea (n, %)	199	11.33%	61	11.80%	138	11.14%
	Metabolic syndrome (n, %)	75	4.27%	26	5.03%	49	3.95%
	Cardiovascular disease (n, %)	315	17.94%	114	22.05%	201	16.22%
	Hypertension (n, %)	784	44.65%	280	54.16%	504	40.68%

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, cDMARD = Conventional DMARD, HRU = Healthcare resource utilization, IL = Interleukin, JAK = Janus kinase, n = Number, NSAIDs = Nonsteroidal anti-inflammatory drugs, PsA = Psoriatic arthritis, PSO = Psoriasis, SD = Standard deviation, TNF = Tumor necrosis factor.

a These variables included in patient characteristics are available in Germany only.

b Long-term care level (defined in the year prior to the cohort entry date): minor (care level 1) to severe (care level 5) impairment of independence or abilities (with special requirements for nursing care), or none.

Table S10: Dosing for secukinumab, guselkumab, and ixekizumab in patients with PsA in Sweden

		PsA Total Group						PsA + PSO						PsA-only					
		Total		History of Therapy withb/tsDMARD				Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Secukinumab																			
Patients with loading dose		902	100.00	765	100.00%	137	100.00%	620	100.00%	516	100.00%	104	100.00%	282	100.00%	249	100.00%	33	100.00%
Loading dose	150 mg weekly	310	34.37%	261	34.12%	49	35.77%	184	29.68%	152	29.46%	32	30.77%	126	44.68%	109	43.78%	17	51.52%
	300 mg weekly	458	50.78%	393	51.37%	65	47.45%	357	57.58%	300	58.14%	57	54.81%	101	35.82%	93	37.35%	8	24.24%
	No loading dose	87	9.65%	73	9.54%	14	10.22%	42	6.77%	35	6.78%	7	6.73%	45	15.96%	38	15.26%	7	21.21%
	Unknown[a]	47	5.21%	38	4.97%	9	6.57%	37	5.97%	29	5.62%	8	7.69%	10	3.55%	9	3.61%	1	3.03%
Patients with maintenance dose		829	100.00%	701	100.00%	128	100.00%	573	100.00%	475	100.00%	98	100.00%	256	100.00%	226	100.00%	30	100.00%
Maintenance dose	150 mg monthly	320	38.60%	266	37.95%	54	42.19%	191	33.33%	157	33.05%	34	34.69%	129	50.39%	109	48.23%	20	66.67%
	300 mg monthly	456	55.01%	391	55.78%	65	50.78%	342	59.69%	286	60.21%	56	57.14%	114	44.53%	105	46.46%	9	30.00%
	Unknown[a]	53	6.39%	44	6.28%	9	7.03%	40	6.98%	32	6.74%	8	8.16%	13	5.08%	12	5.31%	1	3.33%
Guselkumab																			
Patients with loading dose		61	100.00%	51	100.00%	10	100.00%	58	100.00%	49	100.00%	9	100.00%	3[b]	100%[b]	2[b]	100%[b]	1[b]	100%[b]
Loading dose	50 mg monthly	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	-	-	-	-	-	-
	100 mg monthly	49	80.33%	41	80.39%	8	80.00%	46	79.31%	39	79.59%	7	77.78%	-	-	-	-	-	-
	No loading dose	3	4.92%	3	5.88%	0	0.00%	3	5.17%	3	6.12%	0	0.00%	-	-	-	-	-	-
	Unknown[a]	9	14.75%	7	13.73%	2	20.00%	9	15.52%	7	14.29%	2	22.22%	-	-	-	-	-	-
Patients with maintenance dose		56	100.00%	46	100.00%	10	100.00%	53	100.00%	44	100.00%	9	100.00%	3[b]	100%[b]	2[b]	100%[b]	1[b]	100%[b]
Maintenance dose	50 mg monthly	48	85.71%	40	86.96%	8	80.00%	45	84.91%	38	86.36%	7	77.78%	-	-	-	-	-	-
	100 mg monthly	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	-	-	-	-	-	-
	Unknown[a]	8	14.29%	6	13.04%	2	20.00%	8	15.09%	6	13.64%	2	22.22%	-	-	-	-	-	-
Ixekizumab																			

Patients with loading dose		173	100.00%	154	100.00%	19	100.00%	147	100.00%	131	100.00%	16	100.00%	26	100.00%	23	100%	3[b]	100%[b]
Loading dose	160 mg monthly for 1 month	56	32.37%	50	32.47%	6	31.58%	37	25.17%	32	24.43%	5	31.25%	19	73.08%	18	78.26%	-	-
	160 mg monthly for 3 months	94	54.34%	87	56.49%	7	36.84%	92	62.59%	85	64.89%	7	43.75%	2	7.69%	2	8.70%	-	-
	No loading dose	11	6.36%	10	6.49%	1	5.26%	8	5.44%	7	5.34%	1	6.25%	3	11.54%	3	13.04%	-	-
	Unknown[a]	12	6.94%	7	4.55%	5	26.32%	10	6.80%	7	5.34%	3	18.75%	2	7.69%	0	0.00%	-	-
Patients with maintenance dose		157	100.00%	140	100.00%	17	100.00%	135	100.00%	121	100.00%	14	100.00%	22	100.00%	19	100%	3[b]	100%[b]
Maintenance dose	80 mg monthly	138	87.90%	123	87.86%	15	88.24%	116	85.93%	104	85.95%	12	85.71%	22	100.00%	19	100%	-	-
	160 mg monthly	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	-	-
	Unknown[a]	19	12.10%	17	12.14%	2	11.76%	19	14.07%	17	14.05%	2	14.29%	0	0.00%	0	0.00%	-	-

No loading dose refers to situations where a patient does not receive an initial dose of medication and directly starts with the maintenance dose.
Abbreviations: b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis, PSO = Psoriasis.

[a]Dose was not interpretable.

[b]Results for the subgroups with less than 5 patients are censored.

Table S11: Dosing for secukinumab and ixekizumab in patients with axSpA in Sweden

		axSpA						axSpA + PsA/PSO						axSpA-only					
		Total		History of Therapy withb/tsDMARD				Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Secukinumab																			
Patients with loading dose		645	100.00%	543	100.00%	102	100.00%	200	100.00%	176	100.00%	24	100.00%	445	100.00%	367	100.00%	78	100.00%
Loading dose	150 mg weekly	430	66.67%	357	65.75%	73	71.57%	100	50.00%	89	50.57%	11	45.83%	330	74.16%	268	73.02%	62	79.49%
	300 mg weekly	120	18.60%	109	20.07%	11	10.78%	71	35.50%	62	35.23%	9	37.50%	49	11.01%	47	12.81%	2	2.56%
	No loading dose	63	9.77%	46	8.47%	17	16.67%	19	9.50%	15	8.52%	4	16.67%	44	9.89%	31	8.45%	13	16.67%
	Unknown[a]	32	4.96%	31	5.71%	1	0.98%	10	5.00%	10	5.68%	0	0.00%	22	4.94%	21	5.72%	1	1.28%
Patients with maintenance dose		574	100.00%	480	100.00%	94	100.00%	179	100.00%	156	100.00%	23	100.00%	395	100.00%	324	100.00%	71	100.00%
Maintenance dose	150 mg monthly	413	71.95%	338	70.42%	75	79.79%	104	58.10%	90	57.69%	14	60.87%	309	78.23%	248	76.54%	61	85.92%
	300 mg monthly	128	22.30%	111	23.13%	17	18.09%	63	35.20%	55	35.26%	8	34.78%	65	16.46%	56	17.28%	9	12.68%
	Unknown[a]	33	5.75%	31	6.46%	2	2.13%	12	6.70%	11	7.05%	1	4.35%	21	5.32%	20	6.17%	1	1.41%
Ixekizumab																			
Patients with loading dose		31	100%	29	100%	2[b]	100%[b]	15	100%	14	100%	1[b]	100%[b]	16	100%	15	100%	1[b]	100%[b]
Loading dose	160 mg monthly for 1 month	22	70.97%	20	68.97%	-	-	11	73.33%	10	71.43%	-	-	11	68.75%	10	66.67%	-	-
	160 mg monthly for 3 months	3	9.68%	3	10.34%	-	-	3	20.00%	3	21.43%	-	-	0	0.00%	0	0.00%	-	-
	No loading dose	5	16.13%	5	17.24%	-	-	1	6.67%	1	7.14%	-	-	4	25.00%	4	26.67%	-	-
	Unknown[a]	1	3.23%	1	3.45%	-	-	0	0.00%	0	0.00%	-	-	1	6.25%	1	6.67%	0	0.00%
Patients with maintenance dose		28	100%	27	100%	1[b]	100%[b]	14	100%	13	100%	1[b]	100%[b]	14	100%	14	100%	-	-
Maintenance dose	80 mg monthly	26	92.86%	25	92.59%	-	-	13	92.86%	12	92.31%	-	-	13	92.86%	13	92.86%	-	-
	160 mg monthly	0	0.00%	0	0.00%	-	-	0	0.00%	0	0.00%	-	-	0	0.00%	0	0.00%	-	-
	Unknown[a]	2	7.14%	2	7.41%	-	-	1	7.14%	1	7.69%	-	-	1	7.14%	1	7.14%	-	-

No loading dose refers to situations where a patient does not receive an initial dose of medication and directly starts with the maintenance dose.
Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis, PSO = Psoriasis.
[a]Dose was not interpretable.
[b]Results for the subgroups with less than 5 patients are censored.

Table S12: Dosing for secukinumab, guselkumab, and ixekizumab in patients with PsA in Germany

		PsA						PsA + PSO						PsA – only					
		Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Secukinumab																			
Patients with loading dose		356	100.00%	183	100.00%	173	100.00%	327	100.00%	169	100.00%	158	100.00%	29	100.00%	14	100.00%	15	100.00%
Loading dose	150 mg weekly	149	41.85%	73	39.89%	76	43.93%	136	41.59%	65	38.46%	71	44.94%	13	44.83%	8	57.14%	5	33.33%
	300 mg weekly	142	39.89%	78	42.62%	64	36.99%	135	41.28%	76	44.97%	59	37.34%	7	24.14%	2	14.29%	5	33.33%
	Unknown[a]	65	18.26%	32	17.49%	33	19.08%	56	17.13%	28	16.57%	28	17.72%	9	31.03%	4	28.57%	5	33.33%
Patients with maintenance dose		356	100.00%	183	100.00%	173	100.00%	327	100.00%	169	100.00%	158	100.00%	29	100.00%	14	100.00%	15	100.00%
Maintenance dose	150 mg monthly	72	20.22%	38	20.77%	34	19.65%	67	20.49%	35	20.71%	32	20.25%	5	17.24%	3	21.43%	2	13.33%
	300 mg monthly	236	66.29%	123	67.21%	113	65.32%	213	65.14%	112	66.27%	101	63.92%	23	79.31%	11	78.57%	12	80.00%
	Unknown[a]	48	13.48%	22	12.02%	26	15.03%	47	14.37%	22	13.02%	25	15.82%	1	3.45%	0	0.00%	1	6.67%
Guselkumab																			
Patients with loading dose		104	100.00%	60	100.00%	44	100.00%	104	100.00%	60	100.00%	44	100.00%	0	100.00%	0	100.00%	0	100.00%
Loading dose	50 mg monthly	35	33.65%	22	36.67%	13	29.55%	35	33.65%	22	36.67%	13	29.55%	-	-	-	-	-	-
	100 mg monthly	66	63.46%	35	58.33%	31	70.45%	66	63.46%	35	58.33%	31	70.45%	-	-	-	-	-	-
	Unknown[b]	3	2.88%	3	5.00%	0	0.00%	3	2.88%	3	5.00%	0	0.00%	-	-	-	-	-	-
Patients with maintenance dose		104	100.00%	60	100.00%	44	100.00%	104	100.00%	60	100.00%	44	100.00%	0	100.00%	0	100.00%	0	100.00%
Maintenance dose	50 mg monthly	63	60.58%	38	63.33%	25	56.82%	63	60.58%	38	63.33%	25	56.82%	-	-	-	-	-	-
	100 mg monthly	26	25.00%	15	25.00%	11	25.00%	26	25.00%	15	25.00%	11	25.00%	-	-	-	-	-	-
	Unknown[b]	15	14.42%	7	11.67%	8	18.18%	15	14.42%	7	11.67%	8	18.18%	-	-	-	-	-	-
Ixekizumab																			
Patients with loading dose		152	100.00%	85	100.00%	67	100.00%	149	100.00%	83	100.00%	66	100.00%	3[d]	100.00%[d]	<10[d]	-	<10[d]	-
Loading dose	80 mg monthly	40	26.32%	25	29.41%	15	22.39%	39	26.17%	25	30.12%	14	21.21%	-	-	-	-	-	-
	160 mg monthly	109	71.71%	58	68.24%	51	76.12%	107	71.81%	56	67.47%	51	77.27%	-	-	-	-	-	-

	Unknown[c]	3	1.97%	2	2.35%	1	1.49%	3	2.01%	2	2.41%	1	1.52%	-	-	-	-	-	-
Patients with maintenance dose (at 4 weeks)		152	100.00%	85	100.00%	67	100.00%	149	100.00%	83	100.00%	66	100.00%	0	100.00%	0	100.00%	0	100.00%
Maintenance dose	80 mg monthly	70	46.05%	40	47.06%	30	44.78%	69	46.31%	39	46.99%	30	45.45%	-	-	-	-	-	-
	160 mg monthly	64	42.11%	33	38.82%	31	46.27%	62	41.61%	32	38.55%	30	45.45%	-	-	-	-	-	-
	Unknown[c]	18	11.84%	12	14.12%	6	8.96%	18	12.08%	12	14.46%	6	9.09%	-	-	-	-	-	-
Patients with maintenance dose (at 12 weeks)		152	100.00%	85	100.00%	67	100.00%	149	100.00%	83	100.00%	66	100.00%	0	100.00%	0	100.00%	0	100.00%
Maintenance dose	80 mg monthly	88	57.89%	51	60.00%	37	55.22%	86	57.72%	50	60.24%	36	54.55%	-	-	-	-	-	-
	160 mg monthly	32	21.05%	14	16.47%	18	26.87%	31	20.81%	13	15.66%	18	27.27%	-	-	-	-	-	-
	Unknown[c]	32	21.05%	20	23.53%	12	17.91%	32	21.48%	20	24.10%	12	18.18%	-	-	-	-	-	-

Abbreviations: b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis, PSO = Psoriasis.
[a]Estimated dose was not computable or computed below the threshold of 75mg.
[b]Estimated dose was not computable or computed below the threshold of 25mg.
[c]Estimated dose was not computable or computed below the threshold of 40mg.
[d]Results for subgroups <10 patients are not reported in order to maintain patient anonymity.

Table S13: Dosing for secukinumab, and ixekizumab in patients with axSpA in Germany

		axSpA						axSpA + PsA/PSO						axSpA – only					
		Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Secukinumab																			
Patients with loading dose		265	100.00%	130	100.00%	135	100.00%	127	100.00%	67	100.00%	60	100.00%	138	100.00%	63	100.00%	75	100.00%
Loading dose	150 mg weekly	119	44.91%	62	47.69%	57	42.22%	53	41.73%	29	43.28%	24	40.00%	66	47.83%	33	52.38%	33	44.00%
	300 mg weekly	67	25.28%	37	28.46%	30	22.22%	44	34.65%	25	37.31%	19	31.67%	23	16.67%	12	19.05%	11	14.67%
	Unknown[a]	79	29.81%	31	23.85%	48	35.56%	30	23.62%	13	19.40%	17	28.33%	49	35.51%	18	28.57%	31	41.33%
Patients with maintenance dose		265	100.00%	130	100.00%	135	100.00%	127	100.00%	67	100.00%	60	100.00%	138	100.00%	63	100.00%	75	100.00%
Maintenance dose	150 mg monthly	64	24.15%	26	20.00%	38	28.15%	25	19.69%	12	17.91%	13	21.67%	39	28.26%	14	22.22%	25	33.33%
	300 mg monthly	159	60.00%	86	66.15%	73	54.07%	81	63.78%	46	68.66%	35	58.33%	78	56.52%	40	63.49%	38	50.67%
	Unknown[a]	42	15.85%	18	13.85%	24	17.78%	21	16.54%	9	13.43%	12	20.00%	21	15.22%	9	14.29%	12	16.00%
Ixekizumab																			
Patients with loading dose		20	100.00%	10	100.00%	10	100.00%	17	100.00%	9	100.00%	8	100.00%	3[c]	100.00%[b]	<10[c]	-	<10[c]	-
Loading dose	80 mg monthly	8	40.00%	4	40.00%	4	40.00%	7	41.18%	4	44.44%	3	37.50%	-	-	-	-	-	-
	160 mg monthly	12	60.00%	6	60.00%	6	60.00%	10	58.82%	5	55.56%	5	62.50%	-	-	-	-	-	-
	Unknown[b]	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	-	-	-	-	-	-
Patients with maintenance dose (at 4 weeks)		20	100.00%	10	100.00%	10	100.00%	17	100.00%	9	100.00%	8	100.00%	0	100.00%	0	100.00%	0	100.00%
Maintenance dose	80 mg monthly	11	55.00%	5	50.00%	6	60.00%	11	64.71%	5	55.56%	6	75.00%	-	-	-	-	-	-
	160 mg monthly	7	35.00%	3	30.00%	4	40.00%	5	29.41%	3	33.33%	2	25.00%	-	-	-	-	-	-
	Unknown[b]	2	10.00%	2	20.00%	0	0.00%	1	5.88%	1	11.11%	0	0.00%	-	-	-	-	-	-
Patients with maintenance dose (at 12 weeks)		20	100.00%	10	100.00%	10	100.00%	17	100.00%	9	100.00%	8	100.00%	0	100.00%	0	100.00%	0	100.00%
Maintenance dose	80 mg monthly	12	60.00%	6	60.00%	6	60.00%	12	70.59%	6	66.67%	6	75.00%	-	-	-	-	-	-
	160 mg monthly	4	20.00%	1	10.00%	3	30.00%	3	17.65%	1	11.11%	2	25.00%	-	-	-	-	-	-
	Unknown[b]	4	20.00%	3	30.00%	1	10.00%	2	11.76%	2	22.22%	0	0.00%	-	-	-	-	-	-

Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis, PSO = Psoriasis.
[a]Estimated dose was not computable or computed below the threshold of 75mg.
[b]Estimated dose was not computable or computed below the threshold of 40mg.
[c]Results for subgroups <10 patients are not reported in order to maintain patient anonymity.

Table S14: Sensitivity analysis of secukinumab dosing in patients with PsA and axSpA using new end of study date (31 December 2019) in Sweden

		PsA						axSpA					
		Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%
Patients with loading dose		714		609		105		498		424		74	
Loading dose	150 mg weekly	241	33.75%	206	33.83%	35	33.33%	324	65.06%	272	64.15%	52	70.27%
	300 mg weekly	359	50.28%	308	50.57%	51	48.57%	97	19.48%	87	20.52%	10	13.51%
	No loading dose	73	10.22%	63	10.34%	10	9.52%	51	10.24%	40	9.43%	11	14.86%
	Unknown	41	5.74%	32	5.25%	9	8.57%	26	5.22%	25	5.90%	1	1.35%
Patients with maintenance dose		632		538		94		411		349		62	
Maintenance dose	150 mg monthly	242	38.29%	208	38.66%	34	36.17%	298	72.51%	248	71.06%	50	80.65%
	300 mg monthly	344	54.43%	293	54.46%	51	54.26%	88	21.41%	77	22.06%	11	17.74%
	Unknown	46	7.28%	37	6.88%	9	9.57%	25	6.08%	24	6.88%	1	1.61%

No loading dose refers to situations where a patient does not receive an initial dose of medication and directly starts with the maintenance dose.
Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis.

Table S15: Sensitivity analysis of guselkumab dosing in patients with PsA and axSpA using new end of study date (31 December 2019) in Sweden

		PsA						axSpA					
		Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%
Patients with loading dose		20		17		3[a]		1[a]		1[a]		0[a]	
Loading dose	100 mg monthly	15	75.00%	14	82.35%	<5		<5		<5		<5	
	No loading dose	0	0.00%	0	0.00%	<5		<5		<5		<5	
	Unknown	5	25.00%	3	17.65%	<5		<5		<5		<5	
Patients with maintenance dose		13		13		0		1[a]		1[a]		0[a]	
Maintenance dose	50 mg monthly	10	76.92%	10	76.92%	<5		<5		<5		<5	
	Unknown	3	23.08%	3	23.08%	<5		<5		<5		<5	

No loading dose refers to situations where a patient does not receive an initial dose of medication and directly starts with the maintenance dose.
Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis.
[a]Subgroups with less than 5 patients are not presented.

Table S16: Sensitivity analysis of ixekizumab dosing in patients with PsA and axSpA using new end of study date (31 December 2019) in Sweden

		PsA						axSpA					
		Total		History of Therapy with b/tsDMARD				Total		History of Therapy with b/tsDMARD			
				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	N	%	n	%	n	%	n	%
Patients with loading dose		112		105		7		10		9		1[a]	
Loading dose	**160 per month**	24	21.43%	23	21.90%	1	14.29%	6	60.00%	5	55.56%	<5	
	160 per 3 months	71	63.39%	70	66.67%	1	14.29%	3	30.00%	3	33.33%	<5	
	No loading dose	6	5.36%	5	4.76%	1	14.29%	1	10.00%	1	11.11%	<5	
	Unknown	11	9.82%	7	6.67%	4	57.14%	0	0.00%	0	0.00%	<5	
Patients with maintenance dose		97		91		6		9		8		1[a]	
Maintenance dose	**80 mg monthly**	81	83.51%	77	84.62%	4	66.67%	9	100.00%	8	100.00%	<5	
	Unknown	14	14.43%	12	13.19%	2	33.33%	0	0.00%	0	0.00%	<5	

No loading dose refers to situations where a patient does not receive an initial dose of medication and directly starts with the maintenance dose.
Abbreviations: axSpA = Axial spondyloarthritis, b/tsDMARD = Biological disease-modifying anti-rheumatic drugs, mg = milligram, n = Number, PsA = Psoriatic arthritis.
[a]Subgroups with less than 5 patients are not presented.

Table S17: Sensitivity analysis of secukinumab dosing in patients with PsA and axSpA using new end of study date (31 December 2019) in Germany

		PsA - Sensitivity - end of study date 31 Dec 2019						axSpA - Sensitivity - end of study date 31 Dec 2019					
		Total		History of Biologic Therapy				Total		History of Biologic Therapy			
				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%
Patients with loading dose		195	100.00%	125	100.00%	70	100.00%	145	100.00%	77	100.00%	68	100.00%
Loading dose	150 mg weekly	85	43.59%	54	43.20%	31	44.29%	63	43.45%	39	50.65%	24	35.29%
	300 mg weekly	80	41.03%	53	42.40%	27	38.57%	34	23.45%	21	27.27%	13	19.12%
	Unknown	30	15.38%	18	14.40%	12	17.14%	48	33.10%	17	22.08%	31	45.59%
Patients with maintenance dose		195	100.00%	125	100.00%	70	100.00%	145	100.00%	77	100.00%	68	100.00%
Maintenance dose	150 mg monthly	47	24.10%	26	20.80%	21	30.00%	51	35.17%	25	32.47%	26	38.24%
	300 mg monthly	128	65.64%	85	68.00%	43	61.43%	74	51.03%	42	54.55%	32	47.06%
	Unknown	20	10.26%	14	11.20%	6	8.57%	20	13.79%	10	12.99%	10	14.71%

Abbreviations: axSpA = Axial spondyloarthritis, mg = milligram, n = Number, PsA = Psoriatic arthritis.

Table S18: Sensitivity analysis of guselkumab dosing in patients with PsA using new end of study date (31 December 2019) in Germany

		PsA - Sensitivity - end of study date 31 Dec 2019					
		Total		History of Biologic Therapy			
				Experienced		Naïve	
		n	%	n	%	n	%
Patients with loading dose		47	100.00%	33	100.00%	14	100.00%
Loading dose	50 mg monthly	18	38.30%	11	33.33%	7	50.00%
	100 mg monthly	28	59.57%	21	63.64%	7	50.00%
	Unknown	1	2.13%	1	3.03%	0	0.00%
Patients with maintenance dose		47	100.00%	33	100.00%	14	100.00%
Maintenance dose	50 mg monthly	33	70.21%	23	69.70%	10	71.43%
	100 mg monthly	8	17.02%	5	15.15%	3	21.43%
	Unknown	6	12.77%	5	15.15%	1	7.14%

Abbreviations: mg = milligram, n = Number, PsA = Psoriatic arthritis.

Table S19: Sensitivity analysis of ixekizumab dosing in patients with PsA and axSpA using new end of study date (31 December 2019) in Germany

		PsA - Sensitivity - end of study date 31 Dec 2019						axSpA - Sensitivity - end of study date 31 Dec 2019					
		Total		History of Biologic Therapy				Total		History of Biologic Therapy			
				Experienced		Naïve				Experienced		Naïve	
		n	%	n	%	n	%	n	%	n	%	n	%
Patients with loading dose		88	100.00%	58	100.00%	30	100.00%	7[a]		<10[a]		<10[a]	
Loading dose	80 mg monthly	20	22.73%	13	22.41%	7	23.33%						
	160 mg monthly	65	73.86%	43	74.14%	22	73.33%						
	Unknown	3	3.41%	2	3.45%	1	3.33%						
Patients with maintenance dose		88	100.00%	58	100.00%	30	100.00%						
Maintenance dose	80 mg monthly	42	47.73%	26	44.83%	16	53.33%						
	160 mg monthly	34	38.64%	22	37.93%	12	40.00%						
	Unknown	12	13.64%	10	17.24%	2	6.67%						

Abbreviations: axSpA = Axial spondyloarthritis, mg = milligram, n = Number, PsA = Psoriatic arthritis.
[a]Results for subgroups <10 patients were not reported in order to maintain patient anonymity