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Contributions to health outcomes research Rheumatoid Arthritis

Study objective:	Analysis of patient journeys and their resource consumptions in Germany Insurants presenting rheumatoid arthritis in Germany Statutory Health Insurance (SHI) - an exploratory retrospective analysis based on German claims data.
Database:	HRI research database (FDB), 4m patients, longitudinal (6 years)
Author:	Elsevier Health Analytics
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Pre-release, no commercial use

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0E Validity	External data validity
0F Selection	Study population selection
I Incidence	Number of new diseases
I Sector	Sector of initial diagnosis
I Persistence	Repeated documentation after initial diagnosis
I Disciplines	Disciplines diagnosing the investigated disease
I Comorb.	Top 20 comorbidities (ICD-3-level) prior to initial diagnosis
I Therapy	Drugs prescribed after initial diagnosis
I Therapy Change I	Course of therapy - aggregated view
I Therapy change II	Course of therapy
I Cost	Average cost in the different health service areas in prevalent patients
P Prevalence	Occurrence of the investigated diagnosis in the study population
P Persistence	Occurrence of the investigated diagnosis
P Burden	Burden of disease
P Act. treat	Active treatment in the year after selection
P Act. treat. AGG	Patients with active treatment grouped by age and sex
P Therapy	Prescribed substance classes in the year after selection
P Biologics	Prescriptions of Biologics
P Biol. change	Change of therapy among biologics
P Biol. dur.	Average period until therapy change or termination of biologics therapy
P Biol. dur. II	Average period until therapy change or termination of biologics treatment part II
P Biol. pre-exist.	Period with pre-existing diagnosis prior to biologicals therapy
P Biol. dis.	Disciplines initiating a biologicals therapy
P Cost	Total cost over 3 years
P Cost regime	Cost by highest therapy regime
P Hosp.	Hospitalizations in patients presenting RA
P Sick leave	Inability to work in patients presenting RA

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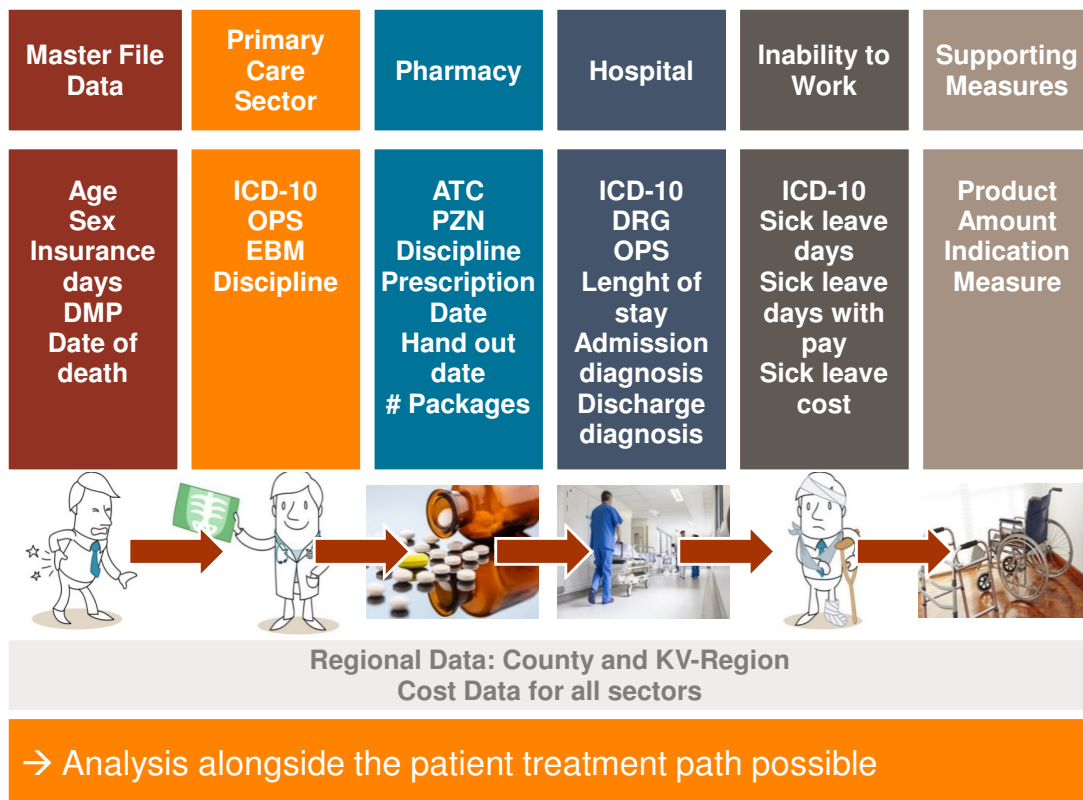
Abbreviations

Abbreviation	Term
%	percent
Σ	Sum
abs.	absolute
amb.	ambulant
diag.	diagnose
max.	maximum
min.	minimum
N	number of insurants (disjunct) or number of observed entities
\bar{O}	average
o.g.	aforementioned
RA	rheumatoid arthritis
Std.	standard deviation
NSAID	Non-steroidal anti-inflammatory drug
DMARD	Disease modifying antirheumatic drug

Overview of the HRI-research database (FDB) and included samples

- anonymized claims data of approx. 6 mio. insurants including a 6 year history
- representative sample for Germany including long-time longitudinal analysis stratified according to the official demographic structure (DeStatist, 31.12.2013)

2 stratified samples:	Size:	Stratified by:
▪ FDB-ANALYSE	▪ ca. 4 Mio. insurants	▪ Age + Sex
▪ FDB-DESTATIS	▪ ca. 1 Mio. insurants	▪ Age + Sex + 402 counties



The Health Risk Institute (HRI) was founded in 2011 to pool sickness funds' claims data of 75 German statutory health insurers so as to develop patient-level risk predictions and to conduct outcomes research. The data is provided in accordance with paragraphs 287 SGB V and 75 SGB X of German law.

Data on patients and physicians is anonymized, as are the providers and the sickness funds, before data is made available to the Health Risk Institute. No regions smaller than federal states or cohorts with less than 100 patients are identified. The HRI functions as the safe haven for data processing, statistics, predictive analytics, and outcomes research, ensuring the highest levels of patient data security.

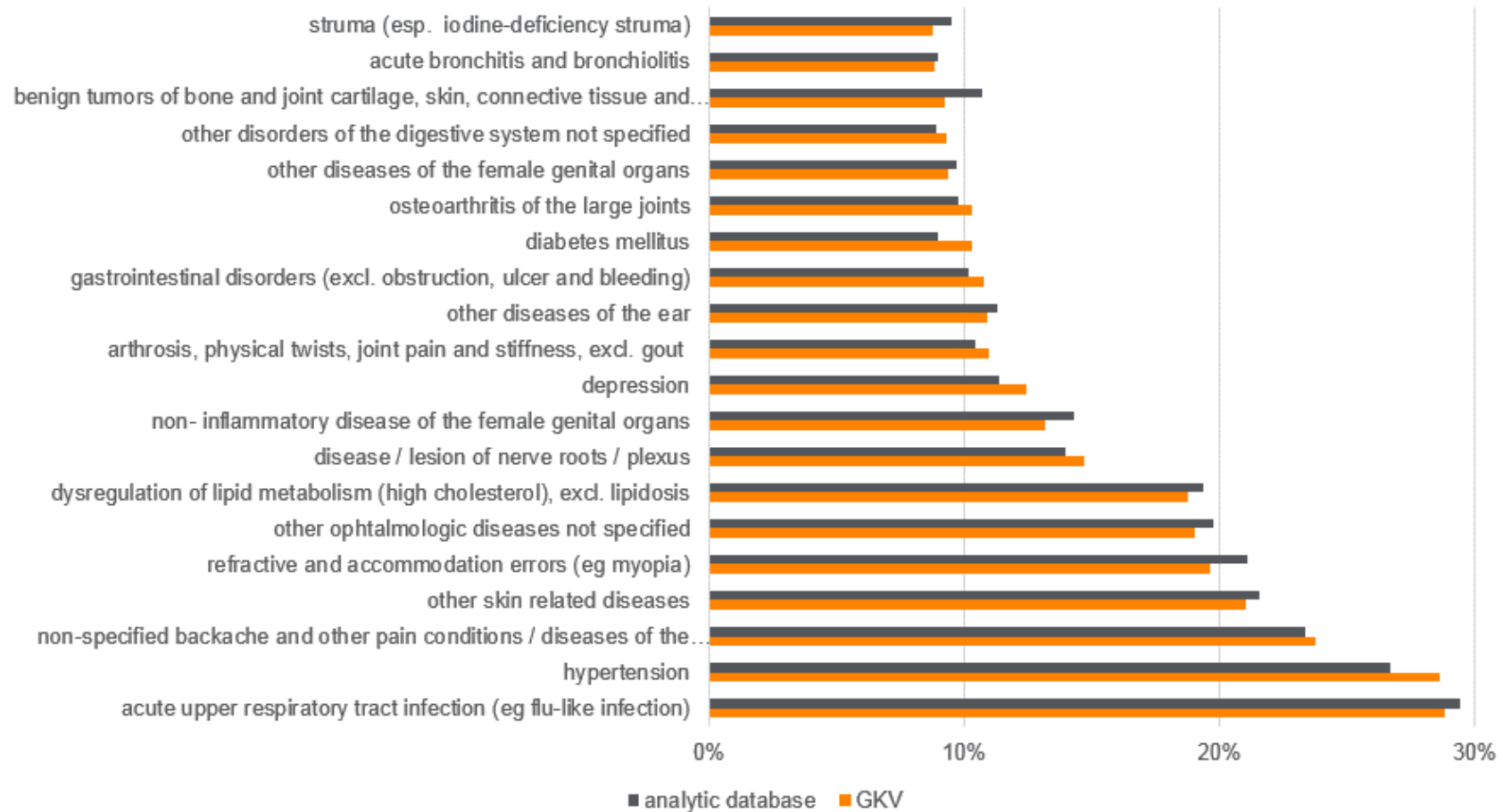
The HRI database is a complete, longitudinal claims data set of 7 million individual patients (ca. 10% of the statutory insured population) between 2008 and 2013. This size of this dataset has been reduced to a 4.0 million patient sample representative of the German population in terms of age and gender (as of 31.12.2011).

The HRI database includes information about the utilization of services on a case-by-case individual level. To support claims, indications (ICD10-GM) and procedure codes are provided together with costs. As German statutory insurance patients have coverage for all health care services, only few co-payments exist (typically the cost of OTC medication). The amount paid out by sickness funds to providers (e.g. hospitals, physicians, pharmacies, psychotherapists, physiotherapists) therefore is a close-to-complete picture of an individual's total health care costs.

The claims database does not include any direct clinical parameters (e.g. lab test results, results of bone density tests, quality of life data, severity grades of a disease, symptom scores etc.). Sickness funds in Germany may receive this data only with express patient consent and not as a matter of routine.

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Comparison of the 20 most common diagnoses in primary care¹ and analytics database (~ 4m insured persons) for 2013



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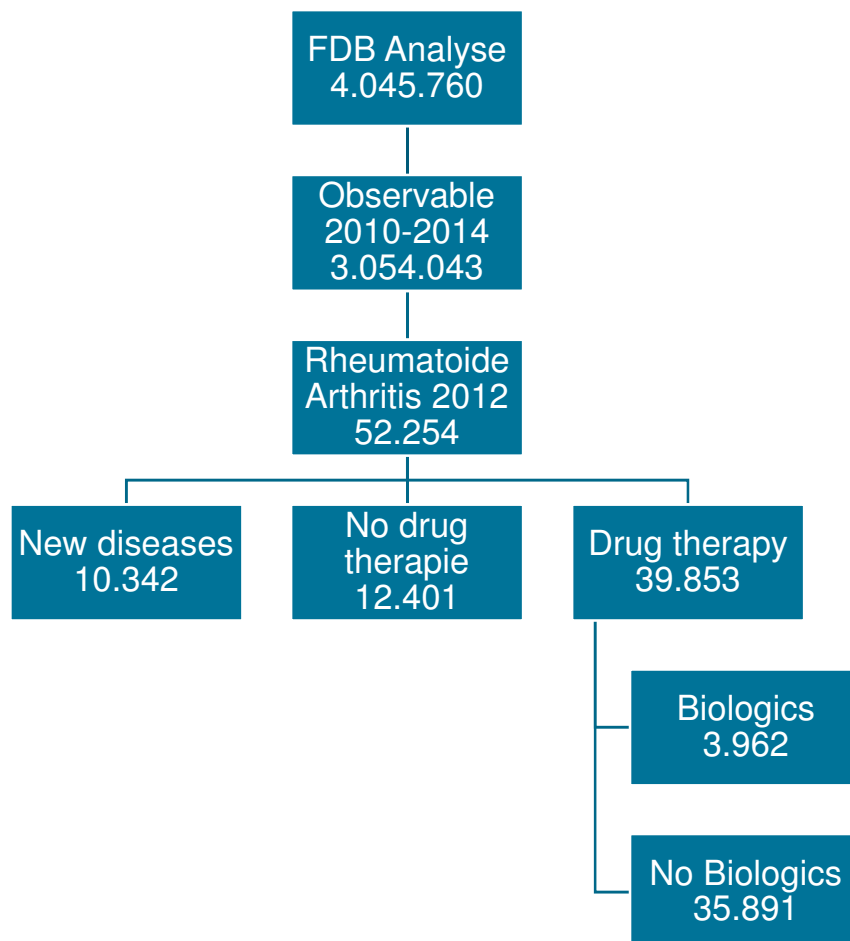
Selection of the study population

Population	N	%	Extrapolation Germany
Insurants 2012	4.045.760		
Observable without interruption between 2010 and 2014 or deceased after 31.12.2012	3.395.703	100,00%	
Selection criteria* present	52.254	1,54%	901.740
...and without selection diagnosis in 2010-2011	10.342	0,30%	178.470
* Selection criteria: 2010 - 2012 Diagnosis of rheumatoide arthritis (ICD M05 or M06 as hospital diagnosis or verified ambulant diagnosis) and age > 18 years			

This indication report is generated based on a non-interventional retrospective claims database study from the HRI database. For an insured person to be included in the study, he/she must be observable without interruption between 1 Jan, 2009 and 31 Dec, 2014 or have died after 31 Dec, 2012. The quarter of the first RA diagnosis (see inclusion criteria below) is defined as index date (index quarter). For analyses of patient journeys over time, patient-individual intervals of -12 (prior period) and +8 (follow-up) quarters are defined around the index quarter. The index quarter is considered separately in all analyses that focus on development over time. For analysis of treatment-related research questions, the first day of therapy is defined as treatment initiation date. In the research database information for prescriptions is available with precision of days as compared to diagnoses which are only known by the quarter. Thus, time between first diagnosis and treatment initiation is also only known on the level of the quarter whereas medical treatment over time can be measured with daily precision. In all analysis the minimum number of reported patient counts must be more than 4. In case of less than 5 found individuals the found number is reported as '< 5' and the exact number found is not included in the totals of all individuals.

Population 2012 Germany, Source: DeStatis

Age group	Male	Female	Total
18 - 29	5.263.271	5.055.141	10.318.412
30 - 39	4.350.621	4.291.560	8.642.181
40 - 49	5.784.963	5.649.977	11.434.940
50 - 59	5.512.473	5.514.496	11.026.969
60 - 69	3.894.897	4.140.674	8.035.571
70 - 79	2.237.369	2.584.739	4.822.108
> 79	1.446.852	2.872.158	4.319.010
Total	28.490.446	30.108.745	58.599.191



Rheumatoid Arthritis: Incidence

Table 1: New RA-diagnoses in 2012 by age and sex and extrapolation for Germany

		Incidence		
Sex	Age	N	/100000	N Germany
Female	18 - 29	298	108	5.487
	30 - 39	420	175	7.528
	40 - 49	968	305	17.271
	50 - 59	1.641	545	30.073
	60 - 69	1.310	571	23.654
	70 - 79	1.481	634	16.405
	> 79	779	493	14.168
	Total	6.897	393	118.523
Male	18 - 29	129	45	2.404
	30 - 39	258	106	4.651
	40 - 49	508	155	9.003
	50 - 59	828	276	15.230
	60 - 69	668	309	12.048
	70 - 79	750	382	8.553
	> 79	304	371	5.381
	Total	3.445	209	59.714
All	18 - 29	427	76	7.912
	30 - 39	678	141	12.187
	40 - 49	1.476	229	26.245
	50 - 59	2.469	411	45.331
	60 - 69	1.978	444	35.697
	70 - 79	2.231	519	25.047
	> 79	1.083	451	19.518
	Total	10.342	304	178.470

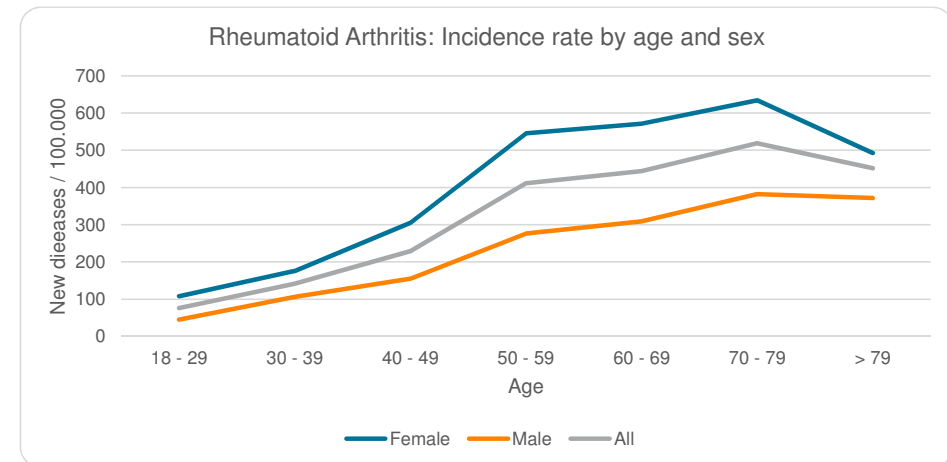


Figure 1a: Rheumatoid Arthritis - New diseases per 100.000

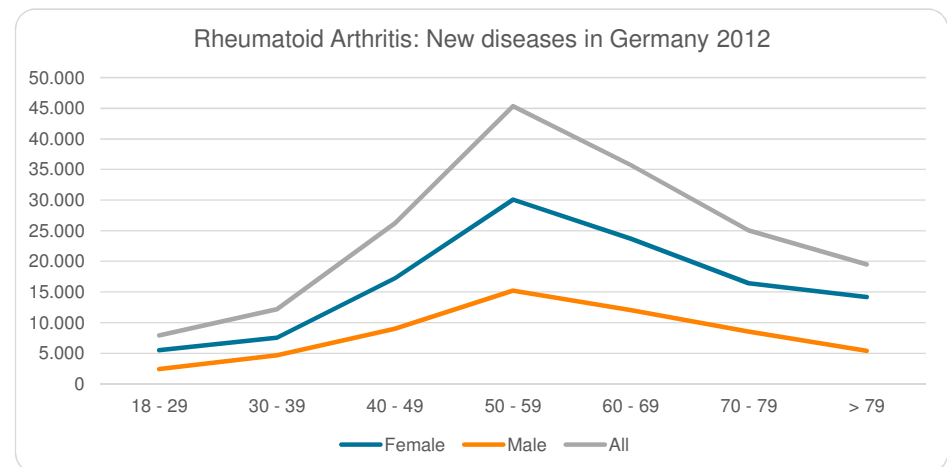


Figure 1b: Rheumatoid Arthritis - New diseases in Germany 2012

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Rheumatoid Arthritis: Sector of first diagnosis

Table 2: Abs. and rel. frequencies of incident insurants by sector of first diagnosis and sex

Sector	Female		Male		Total	
	N	%	N	%	N	%
ambulatory care (office-based)	6.573	95,30%	3.253	94,45%	9.826	95,02%
hospital outpatient care	105	1,52%	34	0,99%	139	1,34%
hospital inpatient care	92	1,33%	78	2,26%	170	1,64%
diagnosis in both sectors	127	1,84%	79	2,29%	206	1,99%
Total	6.897	100%	3.444	100%	10.341	100%

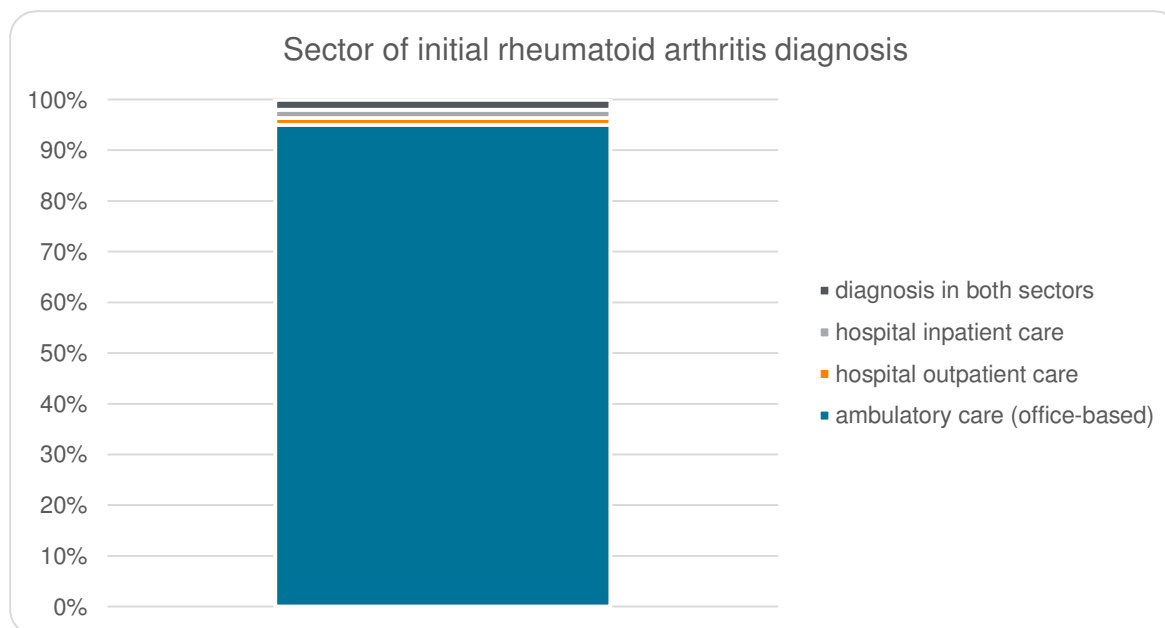


Figure 2: Sector of first Rheumatoid Arthritis diagnosis

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Rheumatoid Arthritis: Persistence of the diagnosis subsequent to the initial diagnosis

Table 3: Abs. and rel. frequencies of quarters with RA-diagnosis subsequent to the initial diagnosis by age group

	18 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 - 79		>= 80		Total	
Quarter	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	45	23%	80	24%	168	22%	305	21%	223	18%	264	19%	124	19%	1.209	20%
2	34	17%	52	16%	132	17%	232	16%	142	12%	169	12%	93	14%	854	14%
3	32	16%	35	11%	55	7%	128	9%	109	9%	101	7%	55	8%	515	9%
4	20	10%	23	7%	52	7%	84	6%	88	7%	101	7%	27	4%	395	7%
5	7	4%	15	5%	40	5%	75	5%	69	6%	57	4%	28	4%	291	5%
6	10	5%	13	4%	32	4%	62	4%	46	4%	52	4%	27	4%	242	4%
7	9	5%	13	4%	31	4%	41	3%	44	4%	45	3%	25	4%	208	3%
8	42	21%	99	30%	261	34%	532	36%	491	41%	619	44%	283	43%	2.327	39%
Total	199	100%	330	100%	771	100%	1.459	100%	1.212	100%	1.408	100%	662	100%	6.041	100%

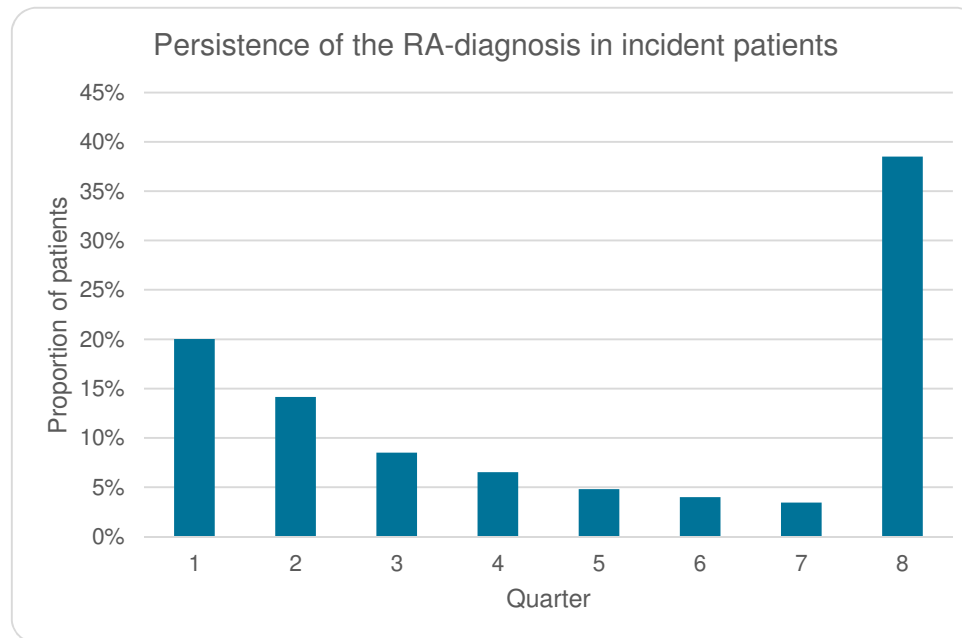


Figure 3: Incident rheumatoid arthritis - Persistence of the diagnosis

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Rheumatoid Arthritis: Disciplines documenting the initial diagnosis

Table 4: Abs. and rel. frequencies of disciplines documentig the initial RA diagnosis by sex

Discipline	Female		Male		Total	
	N	%	N	%	N	%
Other	1.034	14,99%	585	16,99%	1.619	15,66%
Family Medicine	3.141	45,54%	1.596	46,34%	4.737	45,81%
Internal / Rheumathology	1.082	15,69%	564	16,38%	1.646	15,92%
Orthopedics	689	9,99%	300	8,71%	989	9,56%
Internal Medicine	532	7,71%	200	5,81%	732	7,08%
Ophthalmology	202	2,93%	112	3,25%	314	3,04%
Surgery / Rheumatology	217	3,15%	87	2,53%	304	2,94%
Total	6.897	100%	3.443	100%	10.341	100%

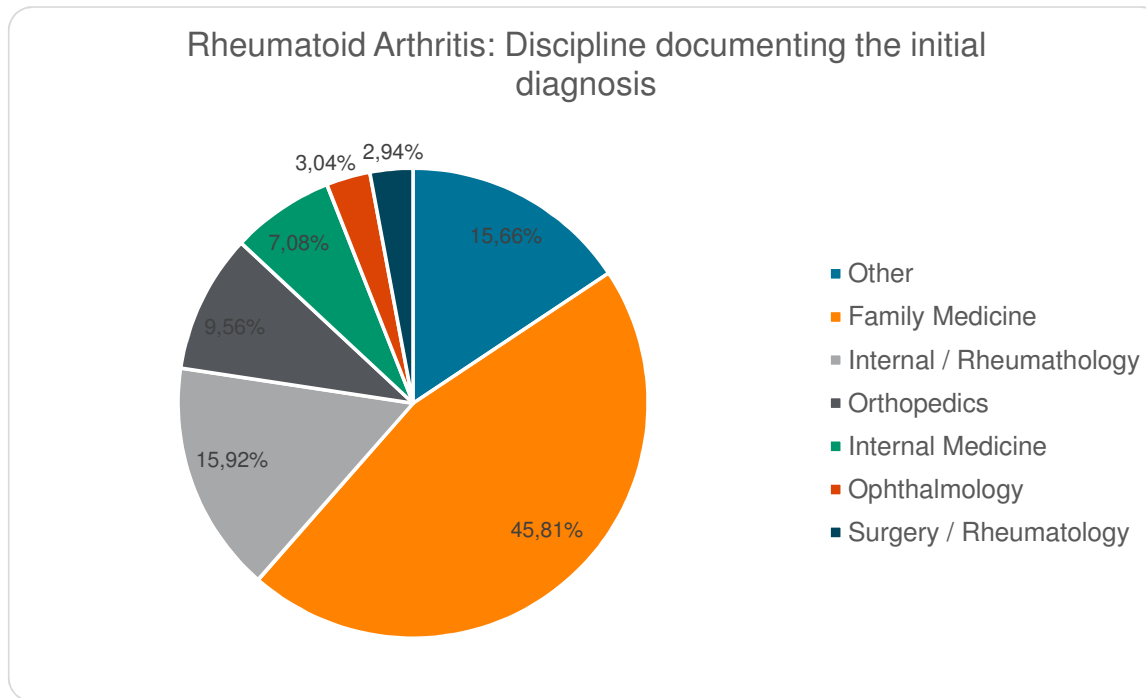






















Figure 4: Rheumatoid Arthritis - Disciplines making the initial diagnosis

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Rheumatoid Arthritis: The 20 most often observed comorbidities in the 8 quarters before the initial diagnosis

Table 5: Abs. and rel. frequencies of the 20 most frequent comorbidities in incident patients in the 8 quarters before initial diagnosis compared to a risk adjusted control group

ICD 10	Comorbidity	Rheumatoide		Control group		deviation	
		N	%	N	%		%
M54	Dorsalgia	5.672	2,4%	4.761	2,1%		12,5%
I10	Essential (primary) hypertension	5.207	2,2%	5.045	2,3%		-2,6%
Z12	Encounter for screening for malignant neoplasms	4.653	2,0%	4.984	2,2%		-11,9%
H52	Disorders of refraction and accommodation	3.901	1,7%	3.987	1,8%		-7,6%
E78	Disorders of lipoprotein metabolism and other lipidemias	3.699	1,6%	3.872	1,7%		-9,8%
Z00	Encntr for general exam w/o complaint, susp or reprtd dx	2.817	1,2%	3.323	1,5%		-20,0%
M25	Other joint disorder, not elsewhere classified	2.550	1,1%	1.330	0,6%		81,0%
M79	Oth and unsp soft tissue disorders, not elsewhere classified	2.539	1,1%	1.179	0,5%		103,3%
M47	Spondylosis	2.476	1,1%	1.924	0,9%		21,5%
Z25	Need for immunization against other single viral diseases	2.359	1,0%	2.527	1,1%		-11,9%
M53	Other and unspecified dorsopathies, not elsewhere classified	2.306	1,0%	1.810	0,8%		20,3%
M17	Osteoarthritis of knee	2.302	1,0%	1.653	0,7%		31,5%
F32	Major depressive disorder, single episode	2.287	1,0%	1.949	0,9%		10,8%
N95	Menopausal and other perimenopausal disorders	2.263	1,0%	2.290	1,0%		-6,7%
F45	Somatoform disorders	2.205	0,9%	1.727	0,8%		20,5%
M99	Biomechanical lesions, not elsewhere classified	2.045	0,9%	1.645	0,7%		17,4%
M19	Other and unspecified osteoarthritis	1.956	0,8%	1.094	0,5%		68,8%
N89	Other noninflammatory disorders of vagina	1.934	0,8%	2.126	1,0%		-14,1%
R10	Abdominal and pelvic pain	1.884	0,8%	1.948	0,9%		-8,7%
M51	Thoracic, thoracolumbar, and lumbosacral intvrt disc disorders	1.766	0,8%	1.314	0,6%		26,9%

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Rheumatoid Arthritis: Drugs prescribed during the 8 quarters subsequent to initial diagnosis

Table 6: Abs. and rel. frequensies of prescribed drugs in incident insurants in the 8 quarters subsequent to the initial RA-diagnosis

Substance group	Q1		Q2		Q3		Q4		Q1 bis Q4	
	N	%	N	%	N	%	N	%	N	%
Biologics	32	0,3%	66	0,6%	105	1,0%	168	1,6%	183	1,8%
Corticoids	635	6,1%	1.098	10,6%	1.663	16,1%	2.059	19,9%	3.103	30,0%
DMARDs	466	4,5%	894	8,6%	1.332	12,9%	1.792	17,3%	2.789	27,0%
NSAIDs	702	6,8%	1.263	12,2%	1.909	18,5%	2.478	24,0%	4.115	39,8%
Min. one of the above	1.335	12,9%	2.439	23,6%	3.638	35,2%	4.775	46,2%	6.528	63,1%

Substance group	Q5		Q6		Q7		Q8		Q5 bis Q8		Q1 bis Q8	
	N	%	N	%	N	%	N	%	N	%	N	%
Biologics	173	1,7%	186	1,8%	186	1,8%	206	2,0%	270	2,6%	285	2,8%
Corticoids	1.958	18,9%	1.775	17,2%	1.713	16,6%	1.677	16,2%	3.125	30,2%	4.070	39,4%
DMARDs	1.628	15,7%	1.619	15,7%	1.598	15,5%	1.581	15,3%	3.304	31,9%	4.256	41,2%
NSAIDs	2.421	23,4%	2.287	22,1%	2.242	21,7%	2.201	21,3%	4.853	46,9%	6.198	59,9%
Min. one of the above	4.585	44,3%	4.329	41,9%	4.274	41,3%	4.227	40,9%	7.019	67,9%	8.207	79,4%

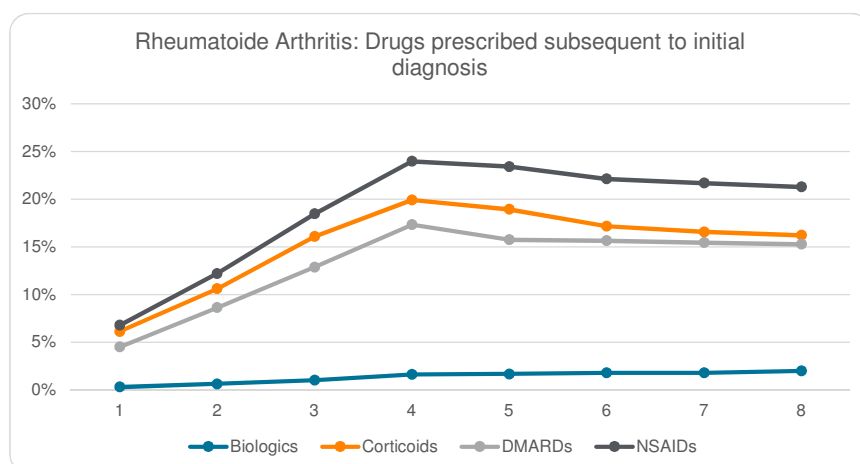


Figure 6: Rheumatoid Arthritis: Drugs prescribed subsequent to initial diagnosis

Included pharmacologic substances

Substance group	ATC
Biologics	L04AB TNF Inhibitors L04AC Interleukin Inhibitors L04AA24 Abatacept L01XC02 Rituximab
Corticoids	H02A - Systemic Corticosteroids H02B - Systemic Corticosteroids, Combinations
DMARDs	L01AA01 - Cyclophosphamide L04AD - Calcineurin Inhibitors L04AX - Other Immunosuppressors M01C - Specific Antirheumatics P01BA01 - Chloroquine P01BA02 - Hydroxychloroquine N02BB02 - Metamizole Sodium
NSAIDs	M01A - Non-steroidal anti-inflammatory drugs

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Rheumatoide Arthritis: Change in therapy in the 8 quarters subsequent to the initial diagnosis

Table 7: Abs. and rel. frequencies of therapy changes in patients presenting a new diagnosis of rheumatoid arthritis

Change	Q1 to Q2		Q2 to Q3		Q3 to Q4		Q4 to Q5		Q5 to Q6		Q6 to Q7		Q7 to Q8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
00->00	7.468	72,21%	5.986	57,88%	4.405	42,59%	4.241	41,01%	4.514	43,65%	4.694	45,39%	4.729	45,73%
00->01	535	5,17%	685	6,62%	890	8,61%	660	6,38%	595	5,75%	636	6,15%	639	6,18%
00->02	422	4,08%	571	5,52%	623	6,02%	294	2,84%	260	2,51%	285	2,76%	271	2,62%
00->03	549	5,31%	626	6,05%	741	7,17%	359	3,47%	369	3,57%	388	3,75%	409	3,95%
00->04	33	0,32%	35	0,34%	45	0,44%	13	0,13%	19	0,18%	10	0,10%	20	0,19%
01->00	209	2,02%	324	3,13%	524	5,07%	672	6,50%	693	6,70%	634	6,13%	612	5,92%
01->01	154	1,49%	303	2,93%	396	3,83%	587	5,68%	585	5,66%	533	5,15%	541	5,23%
01->02	20	0,19%	54	0,52%	68	0,66%	94	0,91%	90	0,87%	89	0,86%	79	0,76%
01->03	44	0,43%	87	0,84%	122	1,18%	143	1,38%	148	1,43%	147	1,42%	158	1,53%
01->04	<5	0,00%	6	0,06%	6	0,06%	<5	0,00%	<5	0,00%	6	0,06%	5	0,05%
02->00	95	0,92%	175	1,69%	307	2,97%	318	3,07%	358	3,46%	298	2,88%	312	3,02%
02->01	40	0,39%	58	0,56%	101	0,98%	127	1,23%	107	1,03%	88	0,85%	84	0,81%
02->02	209	2,02%	371	3,59%	506	4,89%	700	6,77%	602	5,82%	578	5,59%	567	5,48%
02->03	69	0,67%	109	1,05%	182	1,76%	191	1,85%	210	2,03%	181	1,75%	153	1,48%
02->04	<5	0,00%	6	0,06%	10	0,10%	8	0,08%	19	0,18%	15	0,15%	18	0,17%
03->00	128	1,24%	211	2,04%	328	3,17%	511	4,94%	437	4,23%	419	4,05%	449	4,34%
03->01	42	0,41%	68	0,66%	111	1,07%	141	1,36%	117	1,13%	134	1,30%	122	1,18%
03->02	67	0,65%	109	1,05%	146	1,41%	202	1,95%	195	1,89%	178	1,72%	159	1,54%
03->03	218	2,11%	488	4,72%	716	6,92%	898	8,68%	842	8,14%	835	8,07%	821	7,94%
03->04	<5	0,00%	<5	0,00%	10	0,10%	11	0,11%	6	0,06%	8	0,08%	8	0,08%
04->00	<5	0,00%	8	0,08%	<5	0,00%	15	0,15%	11	0,11%	23	0,22%	13	0,13%
04->01	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	5	0,05%	<5	0,00%	5	0,05%
04->02	<5	0,00%	<5	0,00%	<5	0,00%	6	0,06%	13	0,13%	<5	0,00%	6	0,06%
04->03	0	0,00%	<5	0,00%	<5	0,00%	6	0,06%	5	0,05%	8	0,08%	7	0,07%
04->04	25	0,24%	54	0,52%	97	0,94%	137	1,32%	139	1,34%	147	1,42%	155	1,50%
Total	10.327	100%	10.334	100%	10.334	100%	10.334	100%	10.339	100%	10.334	100%	10.342	100%

Legend:

Code	Regime
00	no specific RA therapy
01	NSAIDs and no 02, 03, 04
02	Corticoids and no 03, 04
03	DMARDs and no 04
04	Biologics

Rheumatoid Arthritis: Change in therapy in the 8 quarters subsequent to the initial diagnosis

Table 7: Abs. and rel. frequencies of therapy changes in patients presenting a new diagnosis of rheumatoid arthritis

Change	Q1 to Q2		Q2 to Q3		Q3 to Q4		Q4 to Q5		Q5 to Q6		Q6 to Q7		Q7 to Q8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
00->00	5.792	56,00%	3.492	33,77%	1.115	10,78%	983	9,50%	1.180	11,41%	1.243	12,02%	1.240	11,99%
00->01	430	4,16%	489	4,73%	550	5,32%	152	1,47%	172	1,66%	187	1,81%	153	1,48%
00->02	283	2,74%	322	3,11%	313	3,03%	39	0,38%	34	0,33%	29	0,28%	45	0,44%
00->03	100	0,97%	141	1,36%	131	1,27%	15	0,15%	13	0,13%	21	0,20%	8	0,08%
00->04	179	1,73%	179	1,73%	207	2,00%	38	0,37%	39	0,38%	44	0,43%	50	0,48%
00->05	89	0,86%	103	1,00%	101	0,98%	10	0,10%	21	0,20%	24	0,23%	32	0,31%
00->06	132	1,28%	138	1,33%	130	1,26%	12	0,12%	14	0,14%	10	0,10%	10	0,10%
00->07	67	0,65%	60	0,58%	63	0,61%	5	0,05%	5	0,05%	<5	0,00%	<5	0,00%
00->08	10	0,10%	14	0,14%	23	0,22%	<5	0,00%	5	0,05%	<5	0,00%	5	0,05%
00->09	<5	0,00%	5	0,05%	<5	0,00%	<5	0,00%	0	0,00%	<5	0,00%	<5	0,00%
00->0X	1.009	9,76%	1.111	10,74%	1.281	12,39%	415	4,01%	425	4,11%	495	4,79%	501	4,84%
00->10	<5	0,00%	<5	0,00%	7	0,07%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%
00->11	5	0,05%	<5	0,00%	<5	0,00%	<5	0,00%	0	0,00%	<5	0,00%	<5	0,00%
00->12	<5	0,00%	<5	0,00%	<5	0,00%	0	0,00%	<5	0,00%	0	0,00%	<5	0,00%
00->13	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%
00->14	<5	0,00%	<5	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
00->15	<5	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
01->00	81	0,78%	93	0,90%	125	1,21%	178	1,72%	195	1,89%	170	1,64%	165	1,60%
01->01	154	1,49%	303	2,93%	396	3,83%	587	5,68%	585	5,66%	533	5,15%	541	5,23%
01->02	5	0,05%	21	0,20%	32	0,31%	38	0,37%	40	0,39%	39	0,38%	37	0,36%
01->03	15	0,15%	33	0,32%	36	0,35%	56	0,54%	50	0,48%	50	0,48%	42	0,41%
01->04	17	0,16%	34	0,33%	37	0,36%	46	0,44%	36	0,35%	59	0,57%	53	0,51%
01->05	21	0,20%	38	0,37%	60	0,58%	64	0,62%	83	0,80%	68	0,66%	77	0,74%
01->06	<5	0,00%	6	0,06%	11	0,11%	11	0,11%	13	0,13%	8	0,08%	8	0,08%
01->07	<5	0,00%	9	0,09%	14	0,14%	22	0,21%	16	0,15%	12	0,12%	20	0,19%
01->08	0	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%
01->09	0	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%
01->0X	128	1,24%	231	2,23%	399	3,86%	494	4,78%	498	4,82%	464	4,49%	447	4,32%
01->10	<5	0,00%	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%	0	0,00%	0	0,00%
01->11	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%
01->12	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%
01->13	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
01->14	<5	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
01->15	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
02->00	20	0,19%	37	0,36%	36	0,35%	52	0,50%	53	0,51%	36	0,35%	36	0,35%
02->01	20	0,19%	28	0,27%	41	0,40%	55	0,53%	41	0,40%	42	0,41%	43	0,42%
02->02	135	1,31%	234	2,26%	317	3,07%	453	4,38%	405	3,92%	380	3,67%	366	3,54%
02->03	16	0,15%	45	0,44%	47	0,45%	75	0,73%	59	0,57%	64	0,62%	62	0,60%
02->04	16	0,15%	11	0,11%	31	0,30%	36	0,35%	24	0,23%	32	0,31%	28	0,27%
02->05	<5	0,00%	6	0,06%	6	0,06%	13	0,13%	11	0,11%	8	0,08%	7	0,07%
02->06	27	0,26%	49	0,47%	71	0,69%	69	0,67%	83	0,80%	67	0,65%	56	0,54%
02->07	6	0,06%	14	0,14%	21	0,20%	18	0,17%	25	0,24%	17	0,16%	7	0,07%
02->08	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%
02->09	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%
02->0X	54	0,52%	105	1,02%	207	2,00%	200	1,93%	236	2,28%	197	1,90%	206	1,99%
02->10	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	5	0,05%	8	0,08%
02->11	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	<5	0,00%
02->12	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%
02->13	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
02->14	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	<5	0,00%
02->15	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%
03->00	9	0,09%	7	0,07%	12	0,12%	20	0,19%	10	0,10%	17	0,16%	16	0,15%
03->01	20	0,19%	30	0,29%	60	0,58%	72	0,70%	66	0,64%	46	0,44%	41	0,40%
03->02	26	0,25%	35	0,34%	62	0,60%	76	0,73%	68	0,66%	58	0,56%	58	0,56%
03->03	32	0,31%	57	0,55%	80	0,77%	96	0,93%	70	0,68%	76	0,73%	81	0,78%
03->04	5	0,05%	<5	0,00%	5	0,05%	<5	0,00%	8	0,08%	9	0,09%	8	0,08%
03->05	<5	0,00%	7	0,07%	10	0,10%	12	0,12%	18	0,17%	12	0,12%	11	0,11%
03->06	<5	0,00%	7	0,07%	14	0,14%	15	0,15%	15	0,15%	15	0,15%	20	0,19%
03->07	<5	0,00%	12	0,12%	24	0,23%	24	0,23%	26	0,25%	21	0,20%	16	0,15%
03->08	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%	0	0,00%
03->09	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
03->0X	12	0,12%	26	0,25%	52	0,50%	46	0,44%	59	0,57%	48	0,46%	54	0,52%
03->10	0	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%
03->11	0	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	<5	0,00%	0	0,00%	<5	0,00%
03->12	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%
03->13	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
03->14	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%
03->15	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%
04->00	14	0,14%	29	0,28%	38	0,37%	78	0,75%	48	0,46%	61	0,59%	53	0,51%
04->01	14	0,14%	23	0,22%	33	0,32%	51	0,49%	35	0,34%	44	0,43%	39	0,38%
04->02	<5	0,00%	16	0,15%	20	0,19%	26	0,25%	28	0,27%	18	0,17%	24	0,23%
04->03	0	0,00%	5	0,05%	<5	0,00%	6	0,06%	9	0,09%	10	0,10%	6	0,06%
04->04	60	0,58%	144	1,39%	217	2,10%	248	2,40%	269	2,60%	252	2,44%	253	2,45%
04->05	10	0,10%	26	0,25%	30	0,29%	40	0,39%	52	0,50%	38	0,37%	48	0,46%
04->06	10	0,10%	19	0,18%	41	0,40%	53	0,51%	43	0,42%	54	0,52%	64	0,62%
04->07	<5	0,00%	9	0,09%	7	0,07%	13	0,13%	7	0,07%	13	0,13%	10	0,10%
04->08	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%
04->09	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%
04->0X	49	0,47%	83	0,80%	136	1,32%	229	2,21%	194	1,88%	188	1,82%	210	2,03%
04->10	0	0,00%	0	0,00%	<5	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%
04->11	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
04->12	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	<5	0,00%
04->13	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
04->14	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%	0	0,00%
04->15	0	0,00%	0	0,00%	0	0,00%	<5	0,00%	0	0,00%	0	0,00%	0	0,00%
05->00	6	0,06%	12	0,12%	23	0,22%	32	0,31%	24	0,23%	18	0,17%	31	0,30%
05->01	19	0,18%	33	0,32%	57	0,55%	69	0,67%	57	0,55%	67	0,65%	69	0,67%
05->02	<5	0,00%	5	0,05%	9	0,09%	10	0,10%	12	0,12%	10	0,10%	5	0,05%
05->03	<5	0,00%	<5	0,00%	5	0,05%	9	0,09%	12	0,12%	11	0,11%	5	0,05%
05->04	11	0,11%	30	0,29%	36	0,35%	57	0,55%	43	0,42%	54	0,52%	48	0,46%
05->05	17	0,16%	41	0,40%	70	0,68%	82	0,79%	64	0,62%	87	0,84%	80	0,77%
05->06	<5	0,00%	10	0,10%	8	0,08%	15	0,15%	17	0,16%	15	0,15%	18	0,17%
05->07	<5	0,00%	9	0,09%	10									

06->01	<5	0.00%	<5	0.00%	7	0.07%	11	0.11%	11	0.11%	10	0.10%	5	0.05%
06->02	40	0.39%	46	0.44%	69	0.67%	84	0.81%	76	0.73%	68	0.66%	69	0.67%
06->03	<5	0.00%	10	0.10%	13	0.13%	13	0.13%	15	0.15%	16	0.15%	8	0.08%
06->04	14	0.14%	33	0.32%	56	0.54%	66	0.64%	67	0.65%	58	0.56%	43	0.42%
06->05	9	0.09%	5	0.05%	10	0.10%	18	0.17%	13	0.13%	15	0.15%	11	0.11%
06->06	48	0.46%	90	0.87%	118	1.14%	157	1.52%	132	1.28%	122	1.18%	132	1.28%
06->07	5	0.05%	14	0.14%	23	0.22%	31	0.30%	17	0.16%	21	0.20%	18	0.17%
06->08	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%
06->09	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
06->0X	22	0.21%	34	0.33%	41	0.40%	54	0.52%	52	0.50%	45	0.44%	52	0.50%
06->10	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	0	0.00%
06->11	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
06->12	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
06->13	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%
06->14	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%
06->15	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%
07->00	<5	0.00%	<5	0.00%	6	0.06%	7	0.07%	<5	0.00%	5	0.05%	<5	0.00%
07->01	7	0.07%	9	0.09%	14	0.14%	10	0.10%	14	0.14%	13	0.13%	9	0.09%
07->02	7	0.07%	12	0.12%	18	0.17%	22	0.21%	24	0.23%	23	0.22%	29	0.28%
07->03	7	0.07%	12	0.12%	11	0.11%	32	0.31%	19	0.18%	22	0.21%	13	0.13%
07->04	5	0.05%	6	0.06%	7	0.07%	18	0.17%	18	0.17%	12	0.12%	12	0.12%
07->05	<5	0.00%	12	0.12%	17	0.16%	16	0.15%	14	0.14%	11	0.11%	14	0.14%
07->06	7	0.07%	16	0.15%	39	0.38%	23	0.22%	30	0.29%	27	0.26%	24	0.23%
07->07	12	0.12%	24	0.23%	27	0.26%	42	0.41%	47	0.45%	42	0.41%	31	0.30%
07->08	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
07->09	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%
07->0X	10	0.10%	12	0.12%	16	0.15%	26	0.25%	15	0.15%	15	0.15%	17	0.16%
07->10	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%
07->11	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
07->12	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
07->13	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
07->14	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
07->15	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
08->00	0	0.00%	<5	0.00%	0	0.00%	5	0.05%	<5	0.00%	6	0.06%	7	0.07%
08->01	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
08->02	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%
08->03	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
08->04	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%
08->05	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
08->06	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%
08->07	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
08->08	6	0.06%	11	0.11%	29	0.28%	32	0.31%	34	0.33%	48	0.46%	48	0.46%
08->09	<5	0.00%	<5	0.00%	7	0.07%	13	0.13%	8	0.08%	<5	0.00%	7	0.07%
08->0X	<5	0.00%	<5	0.00%	<5	0.00%	6	0.06%	5	0.05%	9	0.09%	<5	0.00%
08->10	0	0.00%	<5	0.00%	0	0.00%	7	0.07%	<5	0.00%	<5	0.00%	7	0.07%
08->11	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
08->12	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
08->13	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%
08->14	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%
08->15	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
09->00	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
09->01	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
09->02	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
09->03	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%
09->04	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
09->05	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%
09->06	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
09->07	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%
09->08	0	0.00%	<5	0.00%	6	0.06%	7	0.07%	13	0.13%	<5	0.00%	5	0.05%
09->09	<5	0.00%	<5	0.00%	<5	0.00%	8	0.08%	<5	0.00%	5	0.05%	6	0.06%
09->0X	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%
09->10	<5	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%
09->11	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%
09->12	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
09->13	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%
09->14	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
09->15	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
0X->00	138	1.33%	250	2.42%	304	2.94%	531	5.13%	520	5.03%	476	4.60%	491	4.75%
0X->01	105	1.02%	196	1.90%	340	3.29%	508	4.91%	423	4.09%	449	4.34%	486	4.70%
0X->02	28	0.27%	91	0.88%	135	1.31%	196	1.90%	156	1.51%	197	1.90%	171	1.65%
0X->03	11	0.11%	17	0.16%	44	0.43%	44	0.43%	57	0.55%	38	0.37%	47	0.45%
0X->04	48	0.46%	85	0.82%	148	1.43%	171	1.65%	174	1.68%	188	1.82%	189	1.83%
0X->05	19	0.18%	34	0.33%	56	0.54%	61	0.59%	71	0.69%	72	0.70%	64	0.62%
0X->06	10	0.10%	20	0.19%	27	0.26%	51	0.49%	25	0.24%	37	0.36%	47	0.45%
0X->07	5	0.05%	7	0.07%	9	0.09%	11	0.11%	20	0.19%	11	0.11%	14	0.14%
0X->08	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	6	0.06%	<5	0.00%	5	0.05%
0X->09	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%
0X->0X	529	5.12%	1.133	10.96%	1.705	16.49%	2.312	22.36%	2.389	23.10%	2.480	23.98%	2.497	24.14%
0X->10	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
0X->11	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%
0X->12	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%
0X->13	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%
0X->14	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%
0X->15	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
10->00	0	0.00%	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
10->01	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
10->02	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	7	0.07%	<5	0.00%	<5	0.00%
10->03	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%
10->04	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
10->05	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
10->06	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	0	0.00%	0	0.00%
10->07	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
10->08	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	8	0.08%	5	0.05%	8	0.08%
10->09	0	0.00%	0	0.00%	0	0.00%	<5	0.00%	0	0.00%	<5	0.00%	0	0.00%
10->0X	0	0.00%	<5	0.00%	<5	0.00%	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%
10->10	<5	0.00%	5	0.05%	8	0.08%	14	0.14%	11	0.11%	11	0.11%	16	0.15%
10->11	0	0.00%	<5	0.00%	<5	0.00%	<5	0.00%	<5					

Legend:	
Code	Regime
0X	any therapy
00	no therapy
01	NSAIDs
02	Corticoids
03	NSAIDs, Corticoids
04	DMARDs
05	NSAIDs, DMARDs
06	Corticoids, DMARDs
07	NSAIDs, Corticoids, DMARDs
08	Biologics
09	NSAIDs, Biologics
10	Corticoids, Biologics
11	NSAIDs, Corticoids, Biologics
12	DMARDs, Biologics
13	NSAIDs, DMARDs, Biologics
14	Corticoids, DMARDs, Biologics
15	NSAIDs, Corticoids, DMARDs, Biologics

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Rheumatoid Arthritis: Development of treatment cost in incident patients

Table 20: Average cost in the different health service areas in incident patients presenting rheumatoid arthritis versus risk adjusted comparison group and GKV total average

	Year of selection						Year 1						Year 2					
	Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average		Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average		Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average	
Service Area	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.
Ambulatory	1.044	870	617	694	493	663	963	881	658	771	519	698	994	1.003	698	796	542	738
Hospital	1.749	5.044	1.142	4.761	819	4.349	1.789	6.148	1.354	5.500	845	4.475	1.858	6.133	1.430	7.348	877	4.664
Pharmacy	1.116	3.198	662	2.515	485	3.407	1.348	3.849	712	2.651	516	3.584	1.480	4.395	736	2.956	539	3.946
Remedies	148	417	96	447	71	349	156	446	102	430	75	357	166	478	115	487	83	387
Utilities	114	536	84	504	64	639	126	608	113	759	71	622	136	739	124	921	79	1.025
Other	256	873	281	1.206	222	944	283	936	286	1.162	239	953	308	1.157	279	1.154	245	967
Total cost	4.428	6.884	2.882	6.330	2.155	6.429	4.665	8.205	3.226	7.362	2.264	6.593	4.941	8.623	3.383	8.967	2.366	7.050

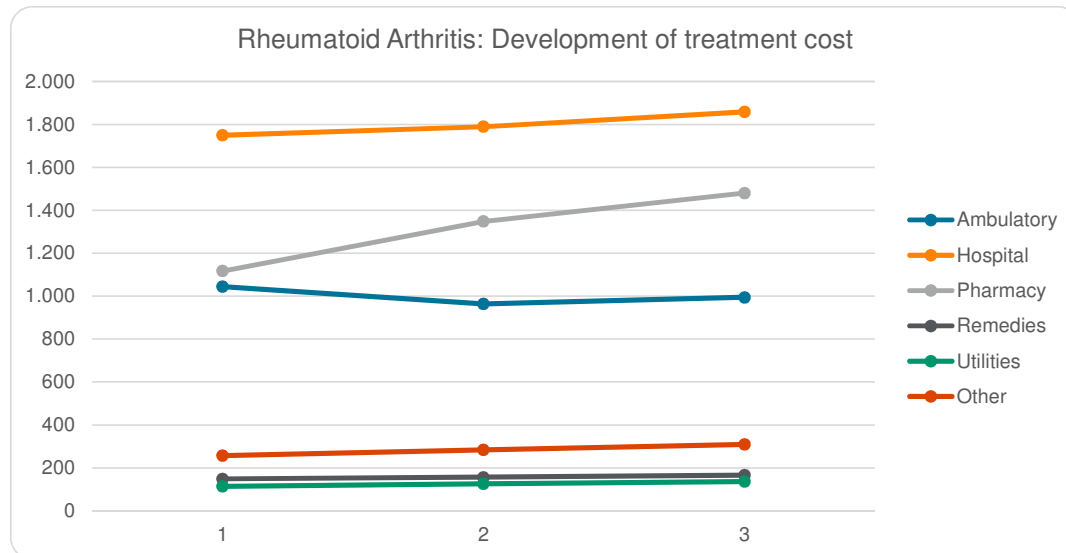


Figure 20: Rheumatoid Arthritis - Development of treatment cost

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Rheumatoid Arthritis: Prevalence

Table 8: Occurrence of all RA-diagnoses in 2012 by age and sex and extrapolation to Germany

Sex	Age group	N	/100000	N Germany
Female	18 - 29	782	284	14.400
	30 - 39	1.310	547	23.481
	40 - 49	3.641	1.149	64.964
	50 - 59	6.986	2.321	128.028
	60 - 69	7.831	3.415	141.405
	70 - 79	10.328	4.426	114.408
	> 79	6.217	3.937	113.078
	Total	37.095	2.117	637.472
Male	18 - 29	300	106	5.592
	30 - 39	626	259	11.285
	40 - 49	1.674	512	29.667
	50 - 59	3.073	1.025	56.526
	60 - 69	3.339	1.546	60.223
	70 - 79	4.156	2.118	47.397
	> 79	1.991	2.435	35.243
	Total	15.159	922	262.760
All	18 - 29	1.082	194	20.048
	30 - 39	1.936	402	34.802
	40 - 49	5.315	826	94.508
	50 - 59	10.059	1.674	184.687
	60 - 69	11.170	2.508	201.585
	70 - 79	14.484	3.372	162.609
	> 79	8.208	3.425	147.928
	Total	52.254	1.538	901.740

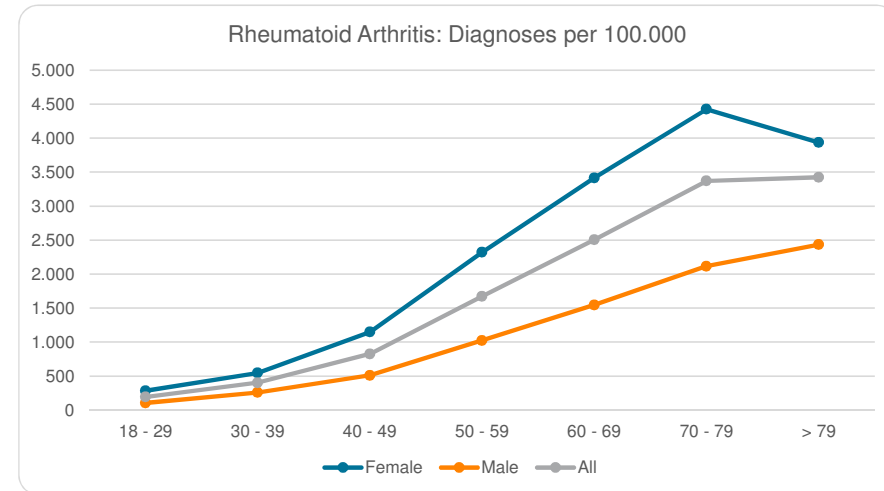


Figure 8a: Rheumatoid Arthritis - Prevalence by sex and age groups

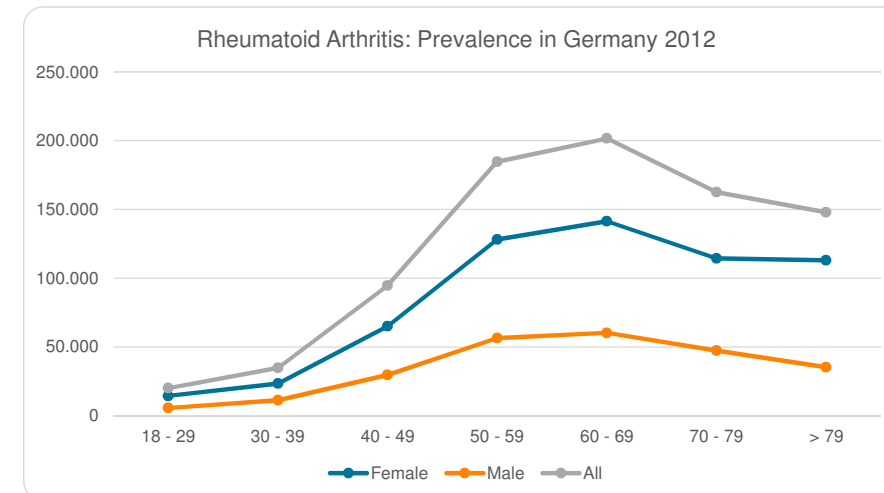


Figure 8b: Rheumatoid Arthritis - Prevalence 2012

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Rheumatoid Arthritis: Persistence of the RA-diagnosis in prevalent patients

Table 9: Abs. and rel. frequencies of prevalent RA-diagnoses by age

	18 - 29		30 - 39		40 - 49		50 - 59		60 - 69		70 - 79		>= 80		Total	
Quarter	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1 Quart.	141	17,7%	221	14,7%	546	12,5%	987	11,3%	968	9,6%	1.097	8,3%	617	8,4%	4.577	10,0%
2 Quart.	123	15,5%	194	12,9%	495	11,3%	815	9,4%	830	8,3%	936	7,1%	571	7,8%	3.964	8,6%
3 Quart.	93	11,7%	141	9,4%	334	7,6%	535	6,2%	598	6,0%	691	5,2%	502	6,8%	2.894	6,3%
4 Quart.	70	8,8%	120	8,0%	260	5,9%	514	5,9%	580	5,8%	650	4,9%	407	5,5%	2.601	5,7%
5 Quart.	49	6,2%	84	5,6%	233	5,3%	436	5,0%	437	4,4%	525	4,0%	343	4,7%	2.107	4,6%
6 Quart.	53	6,7%	62	4,1%	173	4,0%	285	3,3%	307	3,1%	335	2,5%	297	4,0%	1.512	3,3%
7 Quart.	32	4,0%	58	3,9%	130	3,0%	254	2,9%	271	2,7%	357	2,7%	295	4,0%	1.397	3,0%
8 Quart.	234	29,4%	622	41,4%	2.204	50,4%	4.873	56,0%	6.052	60,3%	8.590	65,2%	4.330	58,8%	26.905	58,5%
Total	795	100,0%	1.502	100,0%	4.375	100,0%	8.699	100,0%	10.043	100,0%	13.181	100,0%	7.362	100,0%	45.957	100,0%

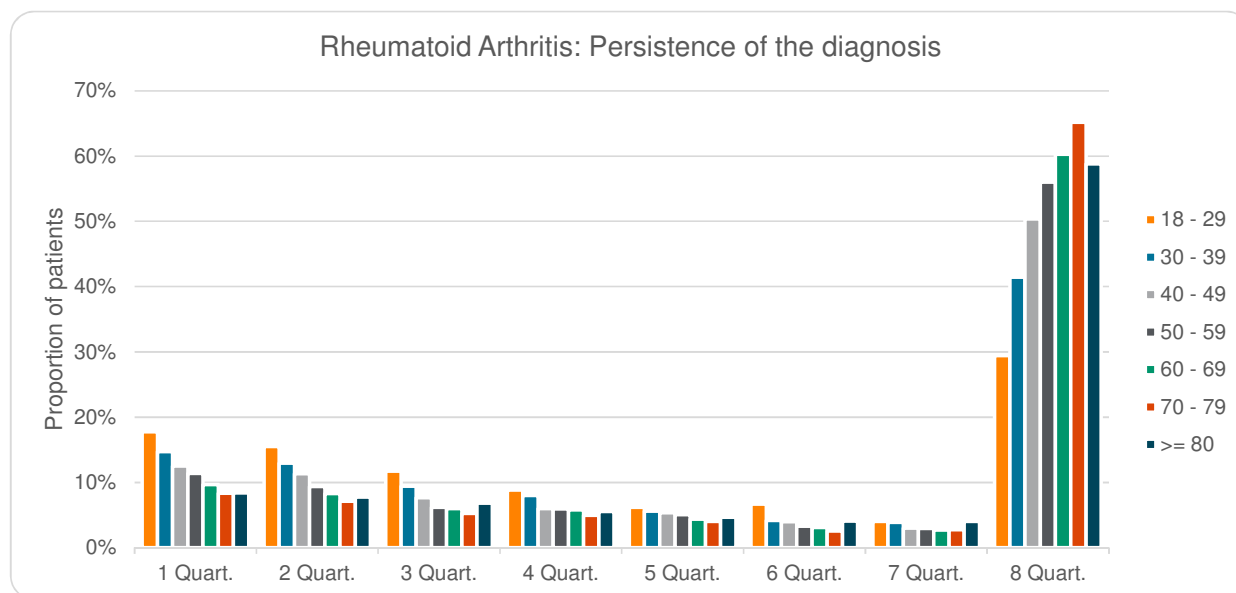


Figure 9: Prevalent rheumatoid arthritis - Persistence of the diagnosis by age

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Rheumatoid Arthritis: Burden of disease compared to a risk adjusted comparison group

Table 10: Different risk scores of patients having a RA-diagnosis in 2012 compared to a risk adjusted comparison group

	RA-diagnosis	RA-diagnosis and biologics	RA-diagnosis and no biologics	Non-RA risk adjusted comparison group
Risk factor	2,3	3,0	2,2	2,5
Charlson Score	2,6	2,2	2,7	2,3
Ø age	64,2	55,7	64,9	64,6
Ø cost	5.331	16.647	4.384	6.220

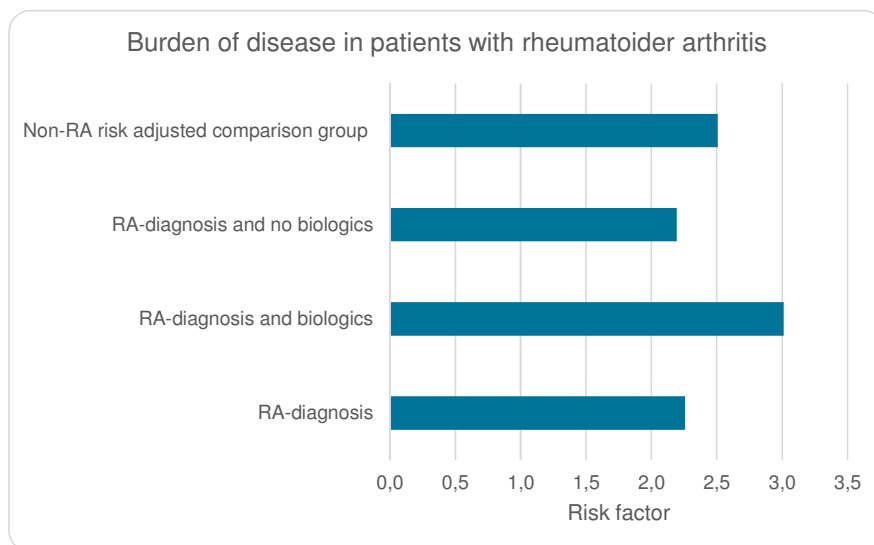


Figure 10: Prevalent rheumatoide Arthritis - Burden of disease

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Rheumatoid Arthritis: Active treatment within one year after selection

Table 11: Abs. and rel. frequencies of active treatment by sex in the year after selection in patients presenting rheumatoid arthritis

Treatment activities	Female			Male			All			
	N	%	Cost	N	%	Cost	N	%	Cost	Age
No treatment	8.468	22,8%	3050	3.933	25,9%	3524	12.401	23,7%	3200	63,56
Active treatment	28.627	77,2%	6257	11.226	74,1%	6503	39.853	76,3%	6326	64,90
All	37.095	100%	5524,7	15.159	100%	5730	52.254	100%	5584	64,59

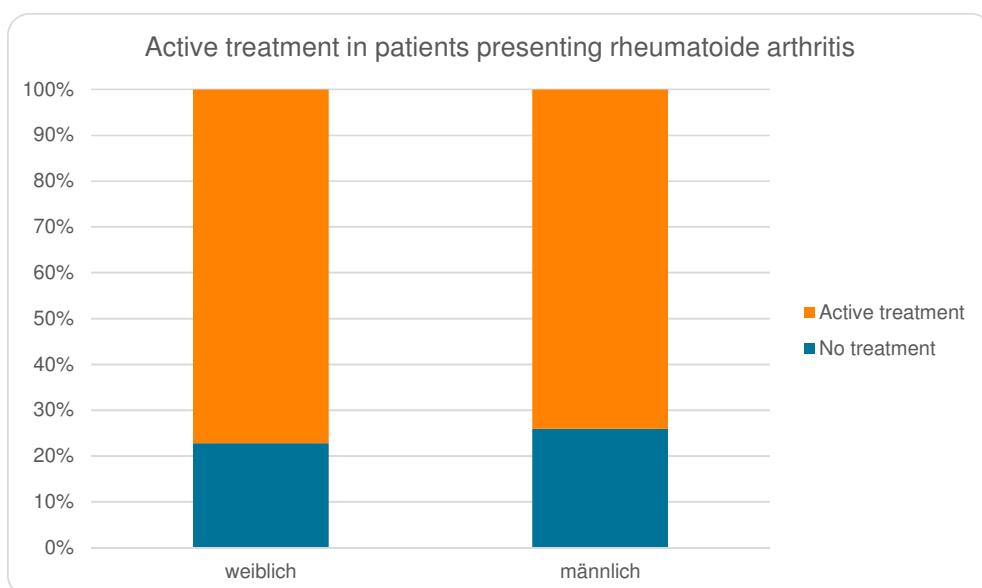


Figure 11: Prevalent rheumatoid arthritis: Treatment activities in the year after selection

Rheumatoid Arthritis: Active treatment

Table 12: Number of patients presenting actively treated rheumatoid arthritis by age and sex and extrapolation to the population of Germany

Sex	Age Group	N	/100,000	N Germany
Female	18 - 29	507	184	9.336
	30 - 39	890	371	15.953
	40 - 49	2.697	851	48.120
	50 - 59	5.446	1.809	99.805
	60 - 69	6.044	2.635	109.137
	70 - 79	8.319	3.565	92.153
	> 79	4.724	2.991	85.922
	Total	28.627	1.633	491.950
Male	18 - 29	179	63	3.336
	30 - 39	399	165	7.192
	40 - 49	1.235	378	21.887
	50 - 59	2.390	797	43.963
	60 - 69	2.494	1.154	44.982
	70 - 79	3.099	1.579	35.342
	> 79	1.430	1.749	25.313
	Total	11.226	682	194.587
All	18 - 29	686	123	12.711
	30 - 39	1.289	268	23.171
	40 - 49	3.932	611	69.916
	50 - 59	7.836	1.304	143.872
	60 - 69	8.538	1.917	154.085
	70 - 79	11.418	2.658	128.188
	> 79	6.154	2.567	110.910
	Total	39.853	1.173	687.737

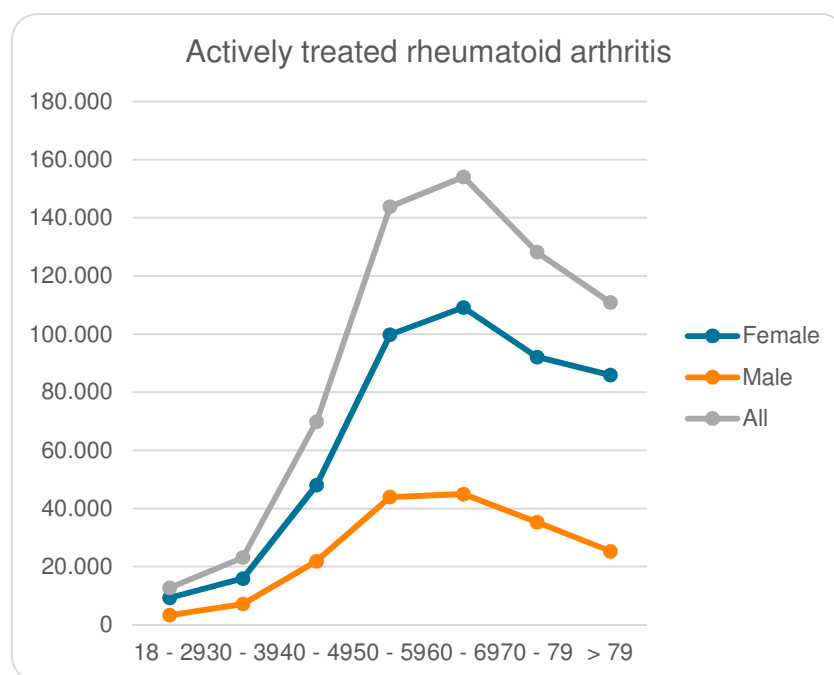


Figure 12: Prevalent rheumatoid arthritis - Number of actively treated

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Rheumatoid Arthritis: Prescribed drugs in the 8 quarters after selection

Table 13: Abs. and rel. frequencies of drug treatment levels in prevalent patients presenting rheumatoid arthritis over 8 quarters after selection

	Q1		Q2		Q3		Q4		Year 1	
Highest therapie level	N	%	N	%	N	%	N	%	N	%
NSAID	5.421	25,0%	6.021	25,6%	6.442	25,4%	6.808	25,6%	8.916	23,2%
DMARD	4.250	19,6%	4604	19,6%	4862	19,1%	5196	19,6%	4212	11,0%
NSAID, DMARD	1.969	9,1%	2.049	8,7%	2.176	8,6%	2.153	8,1%	4.202	10,9%
Biologics	3.283	15,1%	3.660	15,6%	4.080	16,1%	4.378	16,5%	4.141	10,8%
NSAID, Biologics	1.499	6,9%	1.629	6,9%	1.804	7,1%	1.883	7,1%	4.575	11,9%
DMARD, Biologics	2.265	10,4%	2.362	10,1%	2.609	10,3%	2.608	9,8%	4.080	10,6%
NSAID, DMARD, Biologics	1.144	5,3%	1.167	5,0%	1.259	5,0%	1.270	4,8%	5.347	13,9%
Corticoids	546	2,5%	617	2,6%	668	2,6%	700	2,6%	331	0,9%
Corticoids, NSAID	208	1,0%	216	0,9%	248	1,0%	253	1,0%	296	0,8%
Corticoids, DMARD	415	1,9%	441	1,9%	458	1,8%	457	1,7%	366	1,0%
Corticoids, NSAID, DMARD	252	1,2%	256	1,1%	266	1,0%	294	1,1%	578	1,5%
Corticoids, Biologics	121	0,6%	159	0,7%	153	0,6%	174	0,7%	136	0,4%
Corticoids, NSAID, Biologics	76	0,3%	66	0,3%	84	0,3%	101	0,4%	196	0,5%
Corticoids, DMARD, Biologics	160	0,7%	149	0,6%	173	0,7%	184	0,7%	345	0,9%
Corticoids, NSAID, DMARD, Biologics	109	0,5%	94	0,4%	115	0,5%	107	0,4%	684	1,8%
One of the above	21.718	100%	23.490	100%	25.397	100%	26.566	100%	38.405	100%

	Q5		Q6		Q7		Q8		Year 2	
Highest therapie level	N	%	N	%	N	%	N	%	N	%
NSAID	6.919	26,3%	6.485	25,6%	6.435	25,3%	6.219	24,9%	8.804	23,1%
DMARD	4.984	18,9%	4701	18,5%	4651	18,3%	4679	18,7%	3671	9,6%
NSAID, DMARD	2.212	8,4%	2.042	8,1%	2.057	8,1%	1.912	7,6%	3.913	10,3%
Biologics	4.149	15,8%	4.198	16,6%	4.273	16,8%	4.366	17,5%	4.220	11,1%
NSAID, Biologics	1.871	7,1%	1.822	7,2%	1.909	7,5%	1.868	7,5%	4.998	13,1%
DMARD, Biologics	2.575	9,8%	2.525	10,0%	2.511	9,9%	2.502	10,0%	3.962	10,4%
NSAID, DMARD, Biologics	1.271	4,8%	1.208	4,8%	1.164	4,6%	1.058	4,2%	5.354	14,1%
Corticoids	721	2,7%	780	3,1%	784	3,1%	795	3,2%	344	0,9%
Corticoids, NSAID	300	1,1%	245	1,0%	242	1,0%	256	1,0%	334	0,9%
Corticoids, DMARD	491	1,9%	489	1,9%	490	1,9%	489	2,0%	426	1,1%
Corticoids, NSAID, DMARD	265	1,0%	252	1,0%	267	1,1%	250	1,0%	546	1,4%
Corticoids, Biologics	164	0,6%	203	0,8%	182	0,7%	196	0,8%	189	0,5%
Corticoids, NSAID, Biologics	85	0,3%	98	0,4%	88	0,3%	96	0,4%	242	0,6%
Corticoids, DMARD, Biologics	193	0,7%	180	0,7%	221	0,9%	202	0,8%	397	1,0%
Corticoids, NSAID, DMARD, Biologics	115	0,4%	126	0,5%	125	0,5%	108	0,4%	703	1,8%
One of the above	26.315	100%	25.354	100%	25.399	100%	24.996	100%	38.103	100%

All prescriptions	Q1		Q2		Q3		Q4		Year 1	
NSAID	10.678	49,2%	11.498	48,9%	12.394	48,8%	12.869	48,4%	24.794	64,6%
DMARD	8.657	39,9%	9.286	39,5%	10.277	40,5%	10.705	40,3%	19.504	50,8%
Corticoids	10.564	48,6%	11.122	47,3%	11.918	46,9%	12.269	46,2%	19.814	51,6%
Biologics	1.887	8,7%	1.998	8,5%	2.165	8,5%	2.270	8,5%	2.932	7,6%

	Q5		Q6		Q7		Q8		Year 2	
NSAID	13.038	49,5%	12.278	48,4%	12.287	48,4%	11.767	47,1%	24.894	65,3%
DMARD	10.423	39,6%	10.360	40,9%	10.473	41,2%	10.396	41,6%	20.065	52,7%
Corticoids	12.106	46,0%	11.523	45,4%	11.486	45,2%	11.200	44,8%	18.972	49,8%
Biologics	2.334	8,9%	2.373	9,4%	2.399	9,4%	2.392	9,6%	3.181	8,3%

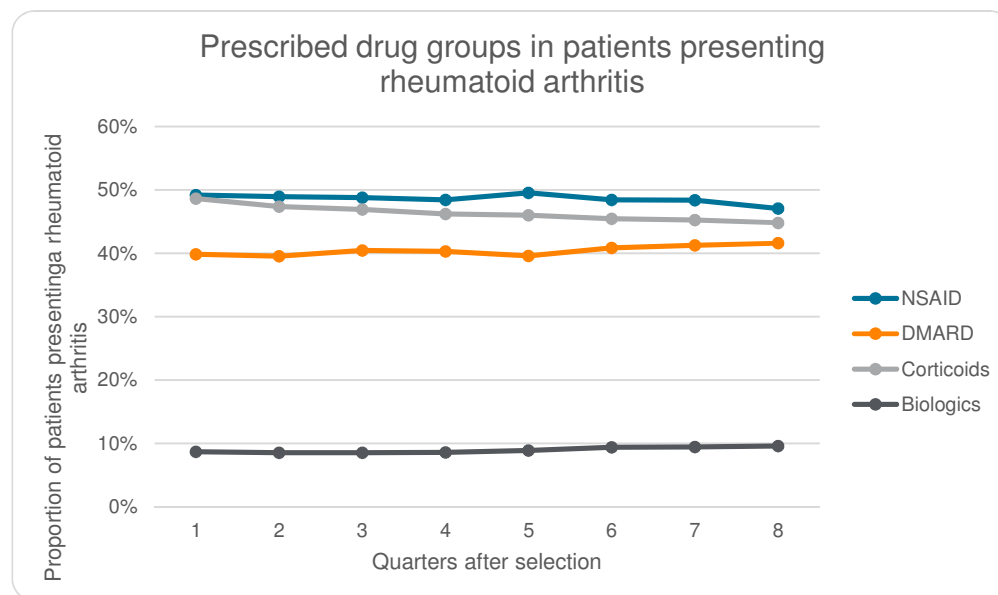


Figure 13: Prevalent rheumatoid arthritis - Prescribed drugs over 8 quarters after selection

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Rheumatoide Arthritis: Prescription of biologics in prevalent patients 8 quarters after diagnosis

Table 14a: Abs. and rel. frequencies of prevalent RA-patients with biologics prescriptions within 8 quarters after diagnosis and average cost in the index year

Biologic	Q1-Q8 after RA diagnosis				
	New		Terminated		All
	n	Ø cost index year	n	Ø cost index year	n
Abatacept	380	17.682	274	18.290	380
Adalimumab	241	19.056	193	19.249	241
Anakinra	1272	18.162	1077	18.918	1272
Certolizumab pegol	203	21.613	171	22.145	203
Etanercept	1204	18.589	1007	19.810	1.204
Golimumab	224	17.242	148	18.311	224
Infliximab	266	19.016	208	19.650	266
Rituximab	43	20.010	29	19.065	43
Tocilizumab	25	20.704	16	21.799	25
Ustekinumab	345	19.751	303	20.160	345
Total	4203	18.628	3426	19.452	4.203
					100%

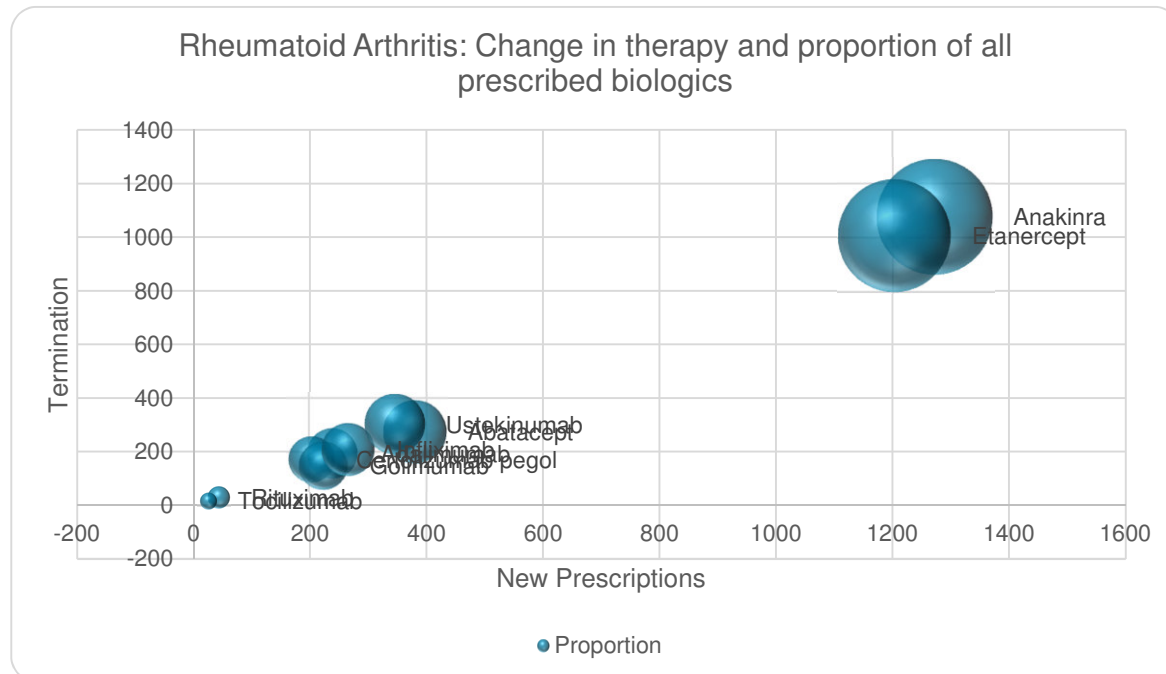


Figure 14a: Rheumatoid Arthritis: Overview of new and terminated prescription of biologics

Table 14b: Number of prevalent RA-patients with prescription of biologics in the two years after diagnosis

Biologic	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Abatacept	73	72	88	123	138	145	147	138
Adalimumab	582	614	662	685	689	710	707	701
Anakinra	25	26	25	25	25	22	22	21
Certolizumab pegol	69	67	81	82	97	98	107	119
Etanercept	627	697	743	761	767	771	776	759
Golimumab	119	126	133	141	150	151	147	164
Infliximab	135	128	140	143	137	130	135	135
Rituximab	108	100	111	113	123	121	121	117
Tocilizumab	166	185	204	212	229	244	241	243
Ustekinumab	<5	<5	5	8	9	11	14	22
Total	1.904	2.015	2.192	2.293	2.364	2.403	2.417	2.419

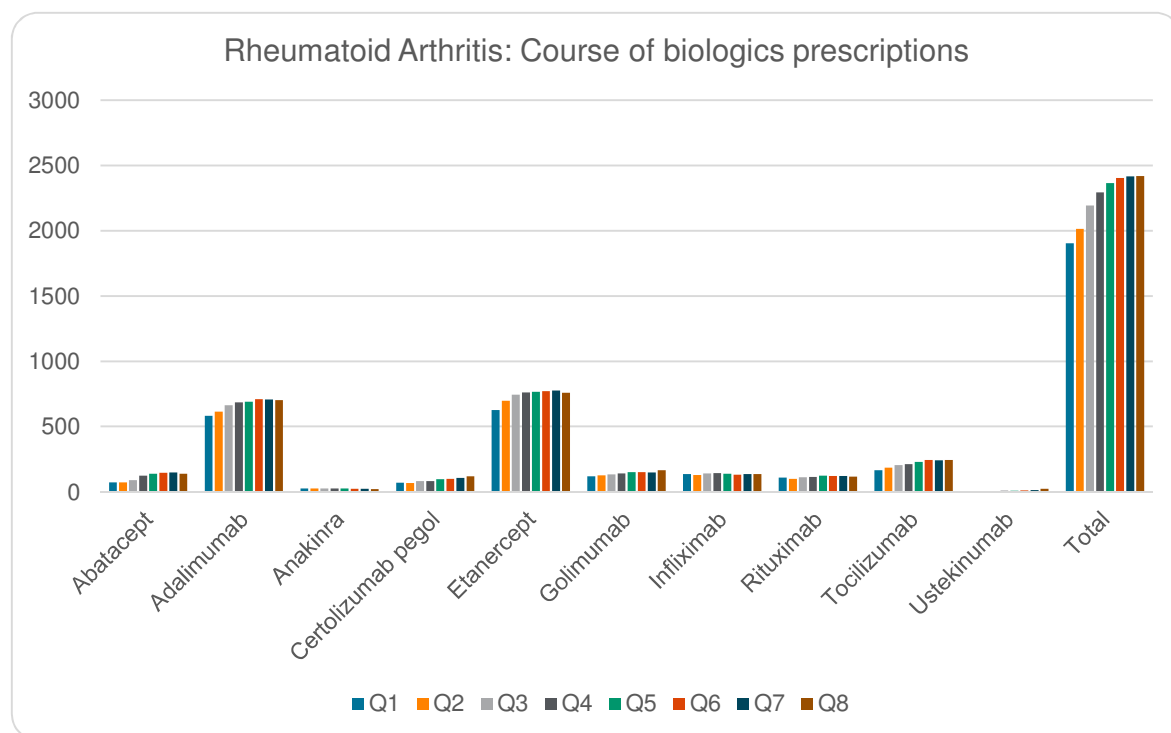


Figure 14b: Rheumatoid Arthritis - Course of biologics prescriptions

Table 14c: Frequencies of patients with biologics prescriptions as first, second or third line therapy

Biologic	Q1-Q8 after RA diagnosis					
	First Line		Second Line		Third Line	
	n	Average cost	n	Average cost	n	Average cost
Abatacept	72	22.710	88	17.508	98	17.013
Adalimumab	614	23.887	483	15.894	515	16.863
Anakinra	26	24.566	12	14.424	12	16.858
Certolizumab pegol	67	21.835	81	15.113	77	15.332
Etanercept	697	22.605	495	14.744	549	16.018
Golimumab	126	24.368	98	14.929	105	16.204
Infliximab	128	23.747	42	19.930	50	19.134
Rituximab	100	21.502	182	17.059	132	16.315
Tocilizumab	185	23.283	114	16.558	117	16.542
Ustekinumab	<5	22.124	10	25.796	7	20.187
Gesamt	2.015	23.187	1.605	15.865	1.662	16.496
Gesamt	4.030	4354	3.210	4354	3.324	4354

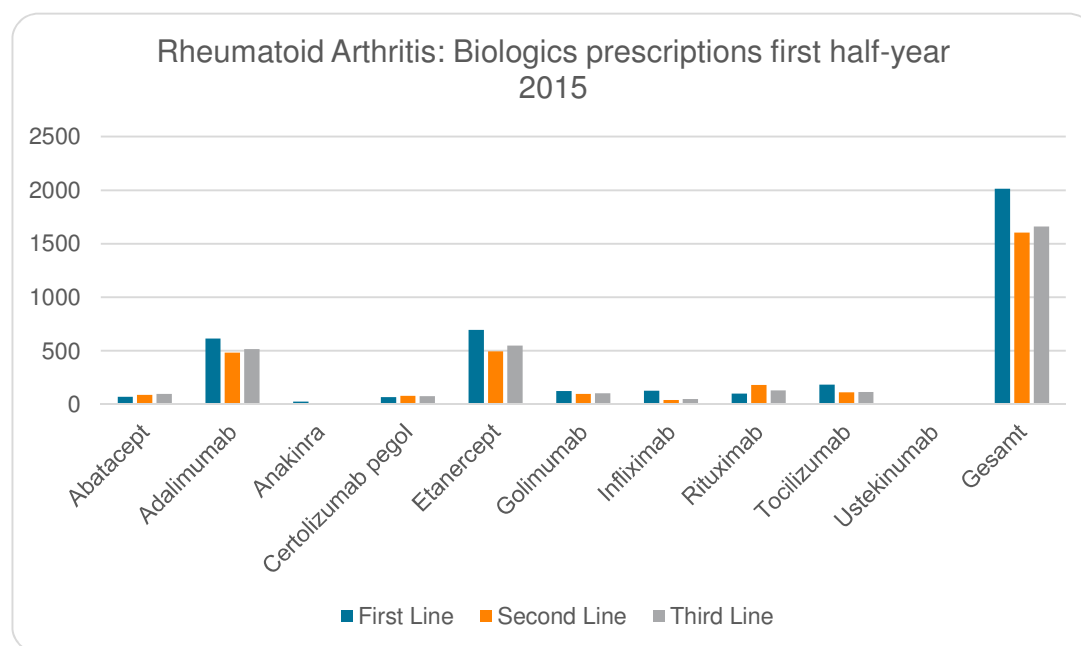


Figure 14c: Rheumatoid Arthritis: Biologics prescriptions in first half-year 2015

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Rheumatoid Arthritis: Therapy transitions among biologics

Table 15: Abs. and rel. frequencies of therapy transitions among biologics in patients presenting rheumatoid arthritis

Type	First Transition			Second Transition		
	N	%	P	N	%	P
01->00	5	0,01%	6,10%	0	0,00%	0,00%
01->01	53	0,14%	64,63%	142	0,38%	86,06%
01->02	0	0,00%	0,00%	5	0,01%	3,03%
01->04	<5	0,00%	0,00%	<5	0,00%	0,00%
01->05	<5	0,00%	0,00%	<5	0,00%	0,00%
01->07	0	0,00%	0,00%	<5	0,00%	0,00%
01->08	<5	0,00%	0,00%	<5	0,00%	0,00%
01->09	<5	0,00%	0,00%	<5	0,00%	0,00%
01->0X	16	0,04%	19,51%	9	0,02%	5,45%
02->00	45	0,12%	6,37%	19	0,05%	2,20%
02->01	11	0,03%	1,56%	<5	0,00%	0,00%
02->02	381	1,03%	53,97%	673	1,81%	78,07%
02->04	<5	0,00%	0,00%	5	0,01%	0,58%
02->05	18	0,05%	2,55%	34	0,09%	3,94%
02->06	6	0,02%	0,85%	6	0,02%	0,70%
02->07	0	0,00%	0,00%	5	0,01%	0,58%
02->08	6	0,02%	0,85%	<5	0,00%	0,00%
02->09	9	0,02%	1,27%	5	0,01%	0,58%
02->0X	227	0,61%	32,15%	110	0,30%	12,76%
03->00	<5	0,00%	0,00%	<5	0,00%	0,00%
03->01	<5	0,00%	0,00%	0	0,00%	0,00%
03->02	<5	0,00%	0,00%	0	0,00%	0,00%
03->03	11	0,03%	45,83%	16	0,04%	66,67%
03->05	<5	0,00%	0,00%	<5	0,00%	0,00%
03->08	0	0,00%	0,00%	<5	0,00%	0,00%
03->0X	8	0,02%	33,33%	5	0,01%	20,83%
04->00	<5	0,00%	0,00%	<5	0,00%	0,00%
04->01	<5	0,00%	0,00%	<5	0,00%	0,00%
04->02	<5	0,00%	0,00%	<5	0,00%	0,00%
04->03	0	0,00%	0,00%	<5	0,00%	0,00%
04->04	47	0,13%	54,02%	96	0,26%	72,73%
04->05	<5	0,00%	0,00%	8	0,02%	6,06%
04->07	<5	0,00%	0,00%	0	0,00%	0,00%
04->08	<5	0,00%	0,00%	0	0,00%	0,00%
04->09	<5	0,00%	0,00%	<5	0,00%	0,00%
04->0X	28	0,08%	32,18%	19	0,05%	14,39%
05->00	43	0,12%	5,53%	22	0,06%	2,77%
05->01	7	0,02%	0,90%	8	0,02%	1,01%
05->02	27	0,07%	3,47%	18	0,05%	2,27%
05->04	9	0,02%	1,16%	8	0,02%	1,01%
05->05	421	1,13%	54,11%	595	1,60%	75,03%
05->06	<5	0,00%	0,00%	5	0,01%	0,63%
05->07	<5	0,00%	0,00%	<5	0,00%	0,00%
05->08	<5	0,00%	0,00%	<5	0,00%	0,00%
05->09	7	0,02%	0,90%	6	0,02%	0,76%
05->0X	258	0,69%	33,16%	125	0,34%	15,76%

05->10	<5	0,00%	0,00%	0	0,00%	0,00%
06->00	7	0,02%	4,55%	0	0,00%	0,00%
06->02	<5	0,00%	0,00%	<5	0,00%	0,00%
06->04	<5	0,00%	0,00%	<5	0,00%	0,00%
06->05	<5	0,00%	0,00%	<5	0,00%	0,00%
06->06	88	0,24%	57,14%	119	0,32%	76,77%
06->07	<5	0,00%	0,00%	<5	0,00%	0,00%
06->08	<5	0,00%	0,00%	<5	0,00%	0,00%
06->09	<5	0,00%	0,00%	<5	0,00%	0,00%
06->0X	44	0,12%	28,57%	27	0,07%	17,42%
06->10	<5	0,00%	0,00%	0	0,00%	0,00%
07->00	<5	0,00%	0,00%	<5	0,00%	0,00%
07->02	6	0,02%	6,52%	<5	0,00%	0,00%
07->04	<5	0,00%	0,00%	0	0,00%	0,00%
07->05	<5	0,00%	0,00%	<5	0,00%	0,00%
07->06	<5	0,00%	0,00%	0	0,00%	0,00%
07->07	57	0,15%	61,96%	67	0,18%	83,75%
07->09	<5	0,00%	0,00%	0	0,00%	0,00%
07->0X	17	0,05%	18,48%	8	0,02%	10,00%
08->00	<5	0,00%	0,00%	7	0,02%	3,59%
08->01	0	0,00%	0,00%	<5	0,00%	0,00%
08->06	<5	0,00%	0,00%	0	0,00%	0,00%
08->08	31	0,08%	27,43%	51	0,14%	26,15%
08->09	0	0,00%	0,00%	<5	0,00%	0,00%
08->0X	77	0,21%	68,14%	133	0,36%	68,21%
09->00	6	0,02%	3,39%	<5	0,00%	0,00%
09->01	5	0,01%	2,82%	<5	0,00%	0,00%
09->02	<5	0,00%	0,00%	<5	0,00%	0,00%
09->05	<5	0,00%	0,00%	<5	0,00%	0,00%
09->07	<5	0,00%	0,00%	0	0,00%	0,00%
09->08	6	0,02%	3,39%	<5	0,00%	0,00%
09->09	118	0,32%	66,67%	207	0,56%	87,34%
09->0X	35	0,09%	19,77%	20	0,05%	8,44%
0X->00	7.418	19,97%	21,23%	4.044	10,85%	11,68%
0X->01	48	0,13%	0,14%	23	0,06%	0,07%
0X->02	244	0,66%	0,70%	201	0,54%	0,58%
0X->03	7	0,02%	0,02%	6	0,02%	0,02%
0X->04	50	0,13%	0,14%	24	0,06%	0,07%
0X->05	278	0,75%	0,80%	228	0,61%	0,66%
0X->06	53	0,14%	0,15%	39	0,10%	0,11%
0X->07	12	0,03%	0,03%	16	0,04%	0,05%
0X->08	138	0,37%	0,40%	88	0,24%	0,25%
0X->09	51	0,14%	0,15%	27	0,07%	0,08%
0X->0X	26.631	71,68%	76,23%	29.912	80,26%	86,43%
0X->10	<5	0,00%	0,00%	<5	0,00%	0,00%
10->0X	<5	0,00%	0,00%	<5	0,00%	0,00%
10->10	6	0,02%	0,00%	15	0,04%	0,00%
Total	37.076	100%		37.206	100%	

Legend

Code	Designator
0X	any therapy
00	no therapy
01	Abatacept
02	Adalimumab
03	Anakinra
04	Certolizomab
05	Etanercept
06	Golimum
07	Inflixima
08	Rituximab
09	Tocilizumab
10	Ustekinumab

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Rheumatoid Arthritis: Period until therapy transition or termination of biologics treatment

Table 16: Average number of days until change or termination occurs in biologics treatment by sex

Type	Female			Male			All		
	N	Days	Std.	N	Days	Std.	N	Days	Std.
Days until change to other biologic	619	167	200	221	174	205	840	169	201
Days until termination of therapy	5838	76	86	2383	87	90	8221	79	88
Total	6457	85	106	2604	95	108	9061	88	107

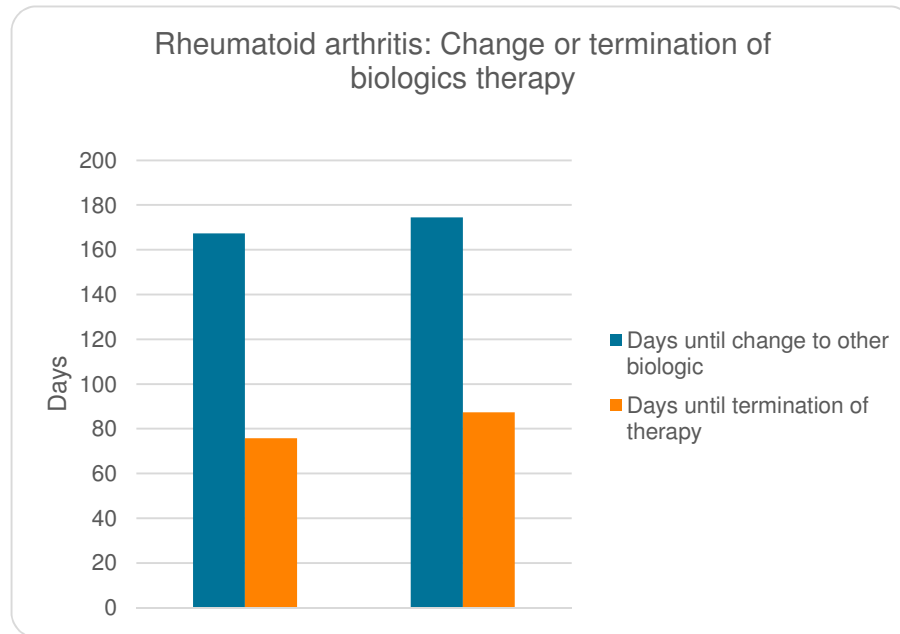


Figure 16: Rheumatoid Arthritis - Time until change or termination of biologics therapy

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Rheumatoid Arthritis: Period until therapy transition or termination of biologics treatment

Table 17a: Average number of days until transition to another biologic

Period	N	%	95% KI	% cum.
0 - 60 days	84	35%	29,10; 41,56	35%
60 - 120 days	80	33%	27,52; 39,84	69%
120 - 180 days	30	13%	8,63; 17,43	81%
180 - 240 days	12	5%	2,62; 8,61	86%
240 - 300 days	9	4%	1,74; 7,03	90%
300 - 360 days	5	2%	0,68; 4,81	92%
360 - 420 days	<5	0%	0,00; 0,00	92%
420 - 480 days	5	2%	0,68; 4,81	94%
480 - 520 days	<5	0%	0,00; 0,00	94%
520 - 600 days	<5	0%	0,00; 0,00	94%
600 - 660 days	0	0%	0,00; 0,00	94%
660 - 720 days	<5	0%	0,00; 0,00	94%
> 720 days	6	3%	0,93; 5,38	97%
Total	231	97%		97%

Table 17b: Average number of days until termination of biologic

Period	N	%	95% KI	% cum.
0 - 60 days	3253	69%	67,71; 70,37	69%
60 - 120 days	1012	21%	20,32; 22,68	91%
120 - 180 days	239	5%	4,46; 5,74	96%
180 - 240 days	45	1%	0,70; 1,28	97%
240 - 300 days	93	2%	1,60; 2,41	99%
300 - 360 days	36	1%	0,54; 1,06	99%
360 - 420 days	11	0%	0,12; 0,42	100%
420 - 480 days	7	0%	0,06; 0,31	100%
480 - 520 days	12	0%	0,13; 0,44	100%
520 - 600 days	<5	0%	0,00; 0,00	100%
600 - 660 days	<5	0%	0,00; 0,00	100%
660 - 720 days	0	0%	0,00; 0,00	100%
> 720 days	0	0%	0,00; 0,00	100%
Total	4708	100%		100%

Table 17c: Average number of days until transition or termination of biologic

Period	N	%	95% KI	% cum.
0 - 60 days	3337	67%	66,09; 68,72	67%
60 - 120 days	1092	22%	20,91; 23,24	89%
120 - 180 days	269	5%	4,82; 6,10	95%
180 - 240 days	57	1%	0,87; 1,49	96%
240 - 300 days	102	2%	1,68; 2,50	98%
300 - 360 days	41	1%	0,60; 1,12	99%
360 - 420 days	12	0%	0,13; 0,42	99%
420 - 480 days	12	0%	0,13; 0,42	99%
480 - 520 days	16	0%	0,18; 0,52	100%
520 - 600 days	<5	0%	0,00; 0,00	100%
600 - 660 days	<5	0%	0,00; 0,00	100%
660 - 720 days	<5	0%	0,00; 0,00	100%
> 720 days	6	0%	0,04; 0,26	100%
Total	4944	100%		100%

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Rheumatoid Arthritis: Period of pre-existing diagnosis until first prescription of biologics

Table 18: Abs. and rel. frequencies of patients with first biologics prescription in prevalent patients presenting rheumatoid arthritis by period of pre-existing RA-diagnosis

Number of quarters with pre-existing RA-diagnosis prior to the first biologic prescription	N	%	Ø cost index year	Ø age index year
1	2.084	52,6%	23.109	56
2	476	12,0%	17.933	55
3	253	6,4%	12.281	56
4	186	4,7%	5.959	56
5	149	3,8%	5.924	57
6	139	3,5%	5.778	57
7	116	2,9%	5.215	56
8	105	2,7%	5.398	54
9	131	3,3%	6.297	56
10	110	2,8%	5.272	57
11	106	2,7%	5.139	53
≥12	107	2,7%	5.118	54
Total	3.962	100%	16.725	56

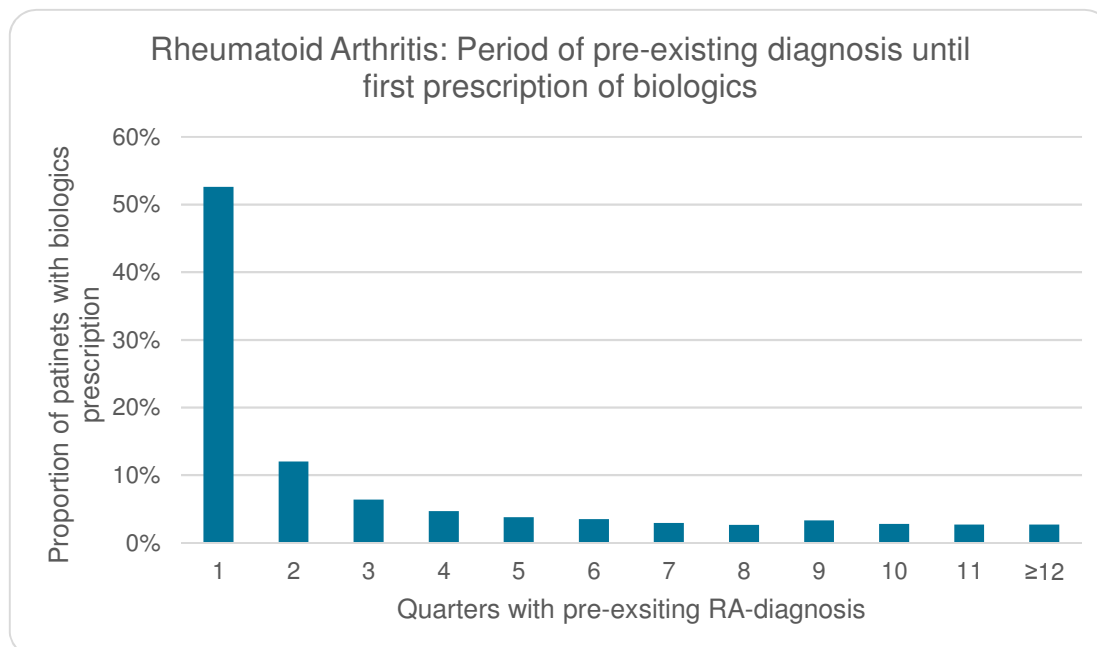


Figure 18: Rheumatoid Arthritis: Period of pre-existing diagnosis until first prescription of biologics

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Rheumatoid Arthritis: Disciplines initiating a drug therapy with biologics

Table 19: Abs. and rel. frequencies of patients with initial biologics therapy by prescribing disciplines

Discipline	Female		Male		All	
	N	%	N	%	N	%
Other	499	19%	232	20%	731	19%
Rheumatology	1.654	63%	701	61%	2.355	62%
Family Medicine	293	11%	137	12%	430	11%
Internal Medicine	176	7%	84	7%	260	7%
Total	2.622	100%	1.154	100%	3.776	100%

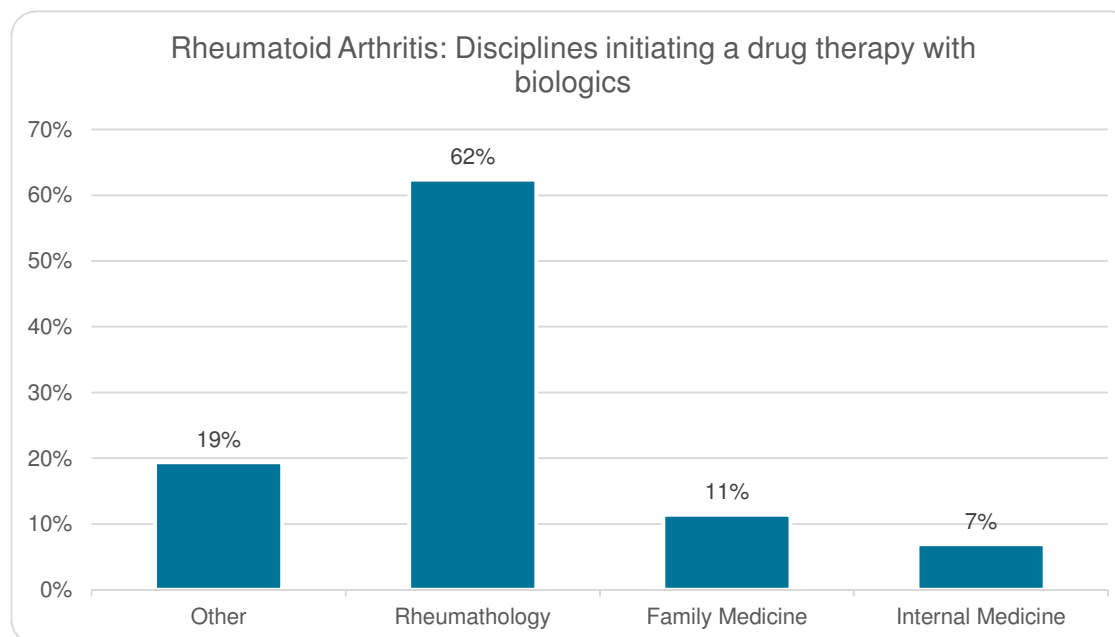


Figure 19: Rheumatoid Arthritis - Disciplines initiating a drug therapy with biologics

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Rheumatoid Arthritis: Development of treatment cost

Table 20: Average cost in the different health service areas in prevalent patients presenting rheumatoid arthritis versus risk adjusted comparison group and GKV total average

	Year of selection						Year 1						Year 2					
	Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average		Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average		Rheumatoid Arthritis		Risk adjusted comparison group		GKV Average	
Service Area	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.
Ambulant	1.007	890	988	1.031	493	663	1.000	927	969	1.034	519	698	1.055	999	1.004	1.030	542	738
Hospital	1.758	5.426	2.728	8.911	819	4.349	2.071	6.587	2.532	8.478	845	4.475	2.163	7.037	2.477	8.533	877	4.664
Pharmacy	1.974	5.009	1.735	5.262	485	3.407	2.133	5.396	1.780	5.768	516	3.584	2.237	5.505	1.786	6.057	539	3.946
Remedies	166	490	206	740	71	349	177	524	215	767	75	357	199	555	239	827	83	387
Utilities	136	625	209	1.075	64	639	152	617	223	993	71	622	167	761	239	1.157	79	1.025
Other	289	1.136	354	1.890	222	944	305	1.136	383	1.947	239	953	318	1.202	406	2.062	245	967
Total cost	5.331	8.325	6.220	11.714	2.155	6.429	5.840	9.483	6.101	11.674	2.264	6.593	6.139	9.848	6.151	11.957	2.366	7.050

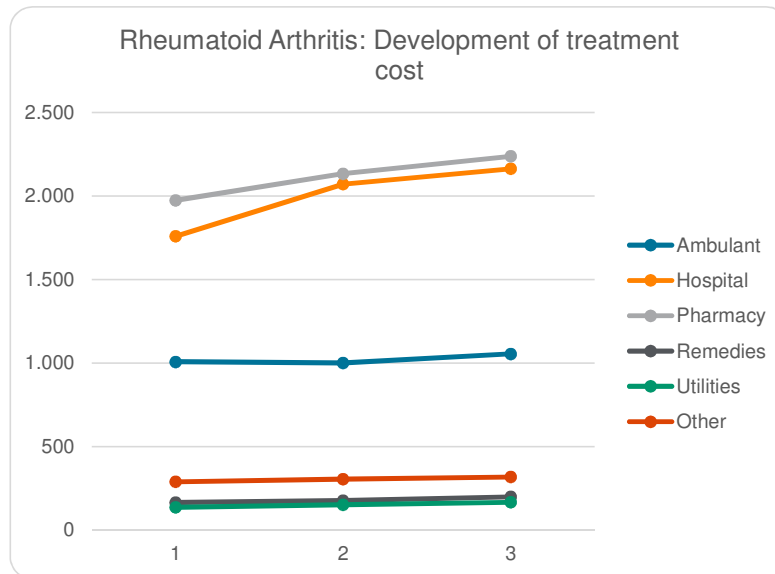


Figure 20: Rheumatoid Arthritis - Development of treatment cost

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Rheumatoid Arthritis: Treatment cost by therapy regime

Table 21: Average treatment cost in patients presenting rheumatoid arthritis by therapy regime

	Year of selection						Year 1						Year 2					
	No specific therapy		Conventionell systemic therapy		Biologics		No specific therapy		Conventionell systemic therapy		Biologics		No specific therapy		Conventionell systemic therapy		Biologics	
Service Area	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.	Ø	Std.
Ambulant	488	659	1.087	876	1.270	827	513	693	1.072	932	1.304	906	536	732	1.141	1.008	1.386	1.485
Hospital	806	4.323	2.321	6.609	2.214	6.355	830	4.440	2.383	6.942	2.494	8.435	862	4.639	2.479	6.648	2.332	6.210
Pharmacy	467	3.373	1.368	3.602	17.406	7.184	495	3.546	1.344	3.820	17.048	7.248	518	3.915	1.361	3.495	17.253	7.416
Remedies	70	347	186	508	262	712	74	354	198	543	255	644	82	385	224	578	279	687
Utilities	63	638	168	713	152	696	70	621	175	670	155	620	78	1.027	191	846	170	656
Other	222	941	308	1.297	305	1.217	238	950	325	1.246	319	1.183	244	963	339	1.312	337	1.410
Total cost	2115,63	6.379	5.438	8.674	21.610	9.823	2.220	6.532	5.496	9.059	21.575	11.330	2.321	7.002	5.735	8.728	21.758	9.941

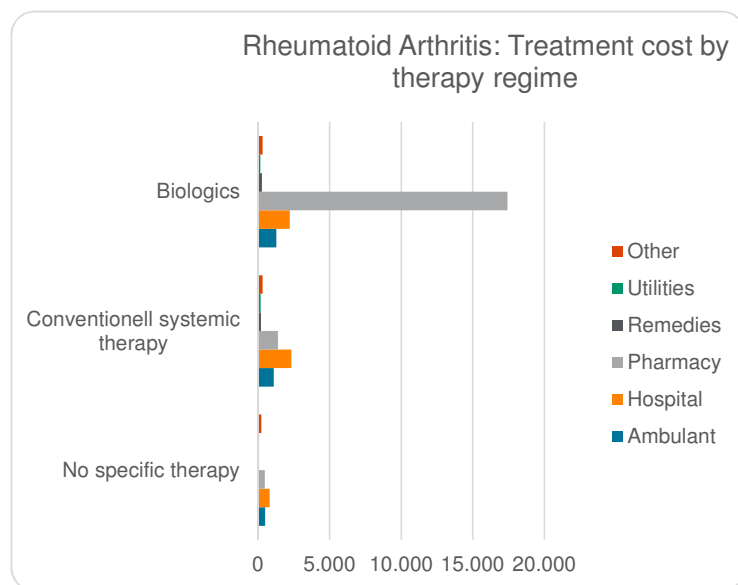


Figure 21: Rheumatoid Arthritis - Treatment cost by therapy regime

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Rheumatoid Arthritis: Associated hospitalization

Table 22: Abs. and rel. frequencies of hospitalizations in patients presenting rheumatoid arthritis.
(In the index year 38% of all patients with a RA diagnosis have been treated in hospital)

	Year of selection				Year 1				Year 2			
Discharge diagnosis	N	% of all RA	Ø cost	Ø age	N	% of all RA	Ø cost	Ø age	N	% of all RA	Ø cost	Ø age
Rheumatoid Arthritis	979	1,9%	9.114	59	726	1,4%	11.089	59	675	1,3%	11.650	61
Other Diagnoses	18.907	36,2%	10.082	67	18.558	35,5%	10.633	68	18.024	34,5%	11.140	69
Total	19.886	38%	10.034	67	19.284	37%	10.650	68	18.699	36%	11.159	68

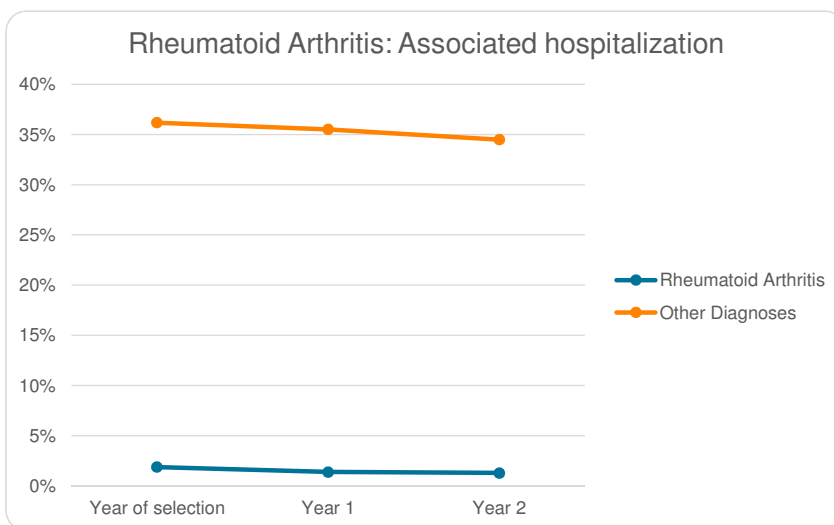


Figure 22: Rheumatoid Arthritis - Associated hospitalization

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Rheumatoid Arthritis: Inability to work

Table 24: Rel. frequencies of RA-patients with an age less than 67 years with at least one sick leave day

Sick leave diagnosis	Year of selection				Year 1				Year 2			
	N	% of all RA	Ø cost	Ø age	N	% of all RA	Ø cost	Ø age	N	% of all RA	Ø cost	Ø age
Rheumatoid Arthritis	172	0,7%	6096	49,6	102	0,4%	7372	50,9	109	0,4%	9178	50,1
Other Diagnoses	9.367	35,7%	4826	49,5	7.921	30,2%	5101	50,0	7.164	27,3%	5360	50,5
Total	9.539	36,3%	4849	49,5	8.023	30,5%	5130	50,0	7.273	27,7%	5417	50,5

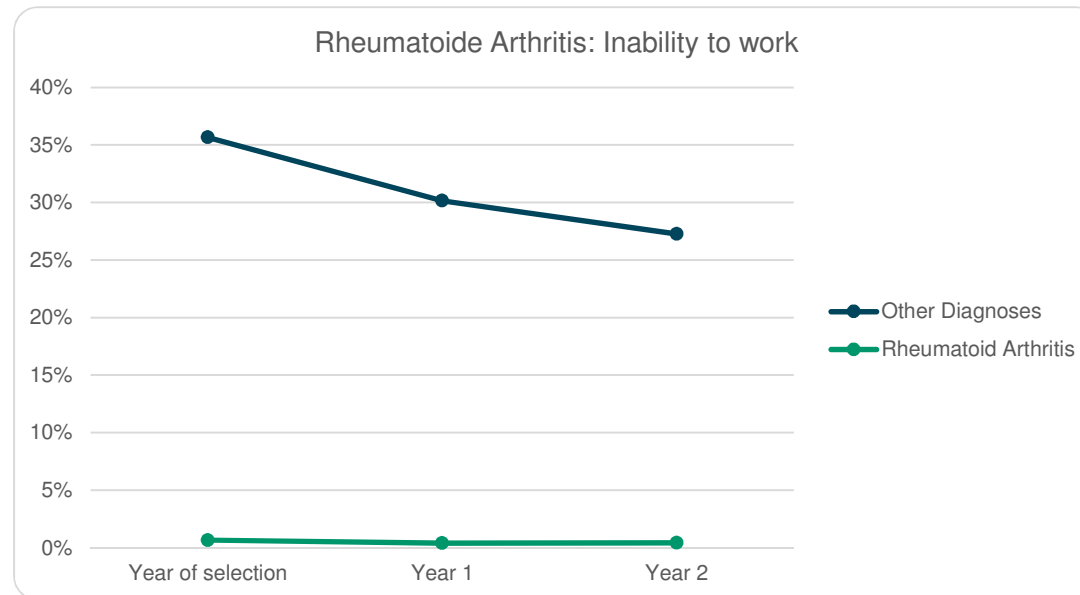


Figure 23: Rheumatoid Arthritis - Inability to work in RA-patients < 67 years

Notes:

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