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The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

The following report contains a description of the request, request specifications, and results from the Query Builder analysis.

If you are using a web page screen reader and are unable to access this document, please contact the Sentinel Operations Center for assistance at info@sentinelssystem.org.

Overview

Query Builder Report: This report details the results of an analysis generated by the Sentinel Query Builder application. Query Builder enables FDA to visualize, draft, and create standardized medical product utilization queries examining dispensing patterns and cohort characteristics using a set of pre-defined parameters. This is a Type 5 (Medical Product Utilization) analysis as described in the Query Request Package (QRP) documentation.

Request Description: In this request, we examined characteristics of patients with a diagnosis of polyarticular Juvenile Idiopathic Arthritis (pJIA) and utilization of tocilizumab, abatacept, adalimumab and etanercept, in the IBM® MarketScan® Research Databases between October 1, 2015 and March 31, 2019. This is Report 2 of 2. In this report, the analysis specifies a pre-index enrollment period of 183 days for all cohorts. In Report 1, the analysis modifies the pre-index enrollment period to 365 days.

Sentinel Routine Querying Module: Cohort Identification and Descriptive Analysis (CIDA) module, version 9.1.0.

Data Source: We executed this request on IBM® MarketScan® Commercial Claims and Encounters Database and Medicare Supplemental Database, which included 142 million members, on September 10, 2020. The study period included data from October 1, 2015 to March 31, 2019. Please see Appendix A for data availability dates.

Limitations: Algorithms used to define exposures and inclusion and exclusion criteria are imperfect; thus it is possible that there may be misclassification. Therefore, data should be interpreted with these limitations in mind.

Notes: Please contact the Sentinel Operations Center (info@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel Query Builder, please refer to the documentation (<https://dev.sentinelssystem.org/projects/QB/repos/querybuilder/browse>).

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Table 1a: Baseline characteristics of abatacept users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Number of unique patients	214	
Demographics		
Mean Age (Years)	28.0	14.4
Age: 00-01	-	-
Age: 02-04	-	-
Age: 05-09	6	2.8%
Age: 10-14	14	6.5%
Age: 15-18	49	22.9%
Age: 19-21	38	17.8%
Age: 22-44	73	34.1%
Age: 45-64	31	14.5%
Age: 65-74	3	1.4%
Age: 75+	-	-
Sex (Female)	184	86.0%
Sex (Male)	30	14.0%
Year (2015)	19	8.9%
Year (2016)	60	28.0%
Year (2017)	61	28.5%
Year (2018)	62	29.0%
Year (2019)	12	5.6%
Recorded history of, in the 183 days prior to drug initiation:		
Prior combined comorbidity score ⁴	0.6	1.3
Acquired Hypothyroidism	16	7.5%
Acute Myocardial Infarction	0	0.0%
Alzheimer's Disease	0	0.0%
Alzheimer's Disease, Related Disorders, or Senile Dementia	0	0.0%
Anemia	16	7.5%
Asthma	17	7.9%
Atrial Fibrillation	5	2.3%
Benign Prostatic Hyperplasia	0	0.0%
Breast Cancer	1	0.5%
Cataracts	3	1.4%
Chronic Kidney Disease	12	5.6%
Chronic Obstructive Pulmonary Disease	8	3.7%
Colorectal Cancer	0	0.0%
Depression	26	12.1%
Diabetes	11	5.1%
Endometrial Cancer	0	0.0%
Glaucoma	1	0.5%
Heart Failure	4	1.9%
Hip / Pelvic Fracture	0	0.0%
Hyperlipidemia	18	8.4%
Hypertension	29	13.6%
Ischemic Heart Disease	1	0.5%
Lung Cancer	0	0.0%
Osteoporosis	11	5.1%
Prostate Cancer	0	0.0%
Rheumatoid Arthritis / Osteoarthritis	214	100.0%
Stroke / Transient Ischemic Attack	1	0.5%
Health Service Utilization Intensity, in the 183 days prior to drug initiation:		
Mean number of ambulatory encounters (AV)	12.0	9.5

Table 1a: Baseline characteristics of abatacept users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Mean number of emergency room encounters (ED)	0.3	0.7
Mean number of inpatient hospital encounters (IP)	0.1	0.3
Mean number of non-acute institutional encounters (IS)	0.0	0.0
Mean number of other ambulatory encounters (OA)	2.2	3.5
Mean number of filled prescriptions	18.3	14.7
Mean number of generics	8.1	5.0
Mean number of unique drug classes	7.2	4.4

¹Baseline characteristics were evaluated for the 183 days prior to drug initiation.

²All metrics based on total number of unique patients .

³Value represents standard deviation where no % follows the value.

⁴The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051).

Table 1b: Baseline characteristics of adalimumab users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Number of unique patients	1,765	
Demographics		
Mean Age (Years)	21.0	13.3
Age: 00-01	2	0.1%
Age: 02-04	48	2.7%
Age: 05-09	184	10.4%
Age: 10-14	395	22.4%
Age: 15-18	455	25.8%
Age: 19-21	175	9.9%
Age: 22-44	362	20.5%
Age: 45-64	128	7.3%
Age: 65-74	11	0.6%
Age: 75+	5	0.3%
Sex (Female)	1,233	69.9%
Sex (Male)	532	30.1%
Year (2015)	158	9.0%
Year (2016)	576	32.6%
Year (2017)	413	23.4%
Year (2018)	492	27.9%
Year (2019)	126	7.1%
Recorded history of, in the 183 days prior to drug initiation:		
Prior combined comorbidity score ⁴	0.4	0.8
Acquired Hypothyroidism	67	3.8%
Acute Myocardial Infarction	2	0.1%
Alzheimer's Disease	0	0.0%
Alzheimer's Disease, Related Disorders, or Senile Dementia	2	0.1%
Anemia	111	6.3%
Asthma	129	7.3%
Atrial Fibrillation	3	0.2%
Benign Prostatic Hyperplasia	4	0.2%
Breast Cancer	2	0.1%
Cataracts	65	3.7%
Chronic Kidney Disease	39	2.2%
Chronic Obstructive Pulmonary Disease	24	1.4%
Colorectal Cancer	1	0.1%
Depression	161	9.1%
Diabetes	51	2.9%
Endometrial Cancer	0	0.0%
Glaucoma	85	4.8%
Heart Failure	2	0.1%
Hip / Pelvic Fracture	3	0.2%
Hyperlipidemia	74	4.2%
Hypertension	93	5.3%
Ischemic Heart Disease	12	0.7%
Lung Cancer	0	0.0%
Osteoporosis	23	1.3%
Prostate Cancer	0	0.0%
Rheumatoid Arthritis / Osteoarthritis	1,765	100.0%
Stroke / Transient Ischemic Attack	7	0.4%
Health Service Utilization Intensity, in the 183 days prior to drug initiation:		
Mean number of ambulatory encounters (AV)	10.2	8.6

Table 1b: Baseline characteristics of adalimumab users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Mean number of emergency room encounters (ED)	0.3	0.7
Mean number of inpatient hospital encounters (IP)	0.1	0.3
Mean number of non-acute institutional encounters (IS)	0.0	0.0
Mean number of other ambulatory encounters (OA)	1.6	3.0
Mean number of filled prescriptions	14.0	11.8
Mean number of generics	6.1	4.3
Mean number of unique drug classes	5.7	3.9

¹Baseline characteristics were evaluated for the 183 days prior to drug initiation.

²All metrics based on total number of unique patients.

³Value represents standard deviation where no % follows the value.

⁴The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051).

Table 1c: Baseline characteristics of etanercept users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Number of unique patients	1,841	
Demographics		
Mean Age (Years)	21.3	14.1
Age: 00-01	4	0.2%
Age: 02-04	84	4.6%
Age: 05-09	197	10.7%
Age: 10-14	408	22.2%
Age: 15-18	405	22.0%
Age: 19-21	166	9.0%
Age: 22-44	400	21.7%
Age: 45-64	162	8.8%
Age: 65-74	13	0.7%
Age: 75+	2	0.1%
Sex (Female)	1,347	73.2%
Sex (Male)	494	26.8%
Year (2015)	265	14.4%
Year (2016)	729	39.6%
Year (2017)	434	23.6%
Year (2018)	337	18.3%
Year (2019)	76	4.1%
Recorded history of, in the 183 days prior to drug initiation:		
Prior combined comorbidity score ⁴	0.3	0.8
Acquired Hypothyroidism	89	4.8%
Acute Myocardial Infarction	1	0.1%
Alzheimer's Disease	0	0.0%
Alzheimer's Disease, Related Disorders, or Senile Dementia	0	0.0%
Anemia	101	5.5%
Asthma	91	4.9%
Atrial Fibrillation	10	0.5%
Benign Prostatic Hyperplasia	4	0.2%
Breast Cancer	3	0.2%
Cataracts	31	1.7%
Chronic Kidney Disease	35	1.9%
Chronic Obstructive Pulmonary Disease	28	1.5%
Colorectal Cancer	0	0.0%
Depression	146	7.9%
Diabetes	51	2.8%
Endometrial Cancer	0	0.0%
Glaucoma	33	1.8%
Heart Failure	7	0.4%
Hip / Pelvic Fracture	0	0.0%
Hyperlipidemia	81	4.4%
Hypertension	105	5.7%
Ischemic Heart Disease	10	0.5%
Lung Cancer	1	0.1%
Osteoporosis	32	1.7%
Prostate Cancer	1	0.1%
Rheumatoid Arthritis / Osteoarthritis	1,841	100.0%
Stroke / Transient Ischemic Attack	10	0.5%
Health Service Utilization Intensity, in the 183 days prior to drug initiation:		
Mean number of ambulatory encounters (AV)	9.3	9.0

Table 1c: Baseline characteristics of etanercept users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Mean number of emergency room encounters (ED)	0.3	0.8
Mean number of inpatient hospital encounters (IP)	0.0	0.2
Mean number of non-acute institutional encounters (IS)	0.0	0.0
Mean number of other ambulatory encounters (OA)	1.7	5.2
Mean number of filled prescriptions	13.1	11.8
Mean number of generics	5.6	4.2
Mean number of unique drug classes	5.2	3.7

¹Baseline characteristics were evaluated for the 183 days prior to drug initiation.

²All metrics based on total number of unique patients .

³Value represents standard deviation where no % follows the value.

⁴The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051).

Table 1 d: Baseline characteristics of tocilizumab users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Number of unique patients	222	
Demographics		
Mean Age (Years)	27.1	13.8
Age: 00-01	-	-
Age: 02-04	2	0.9%
Age: 05-09	9	4.1%
Age: 10-14	22	9.9%
Age: 15-18	40	18.0%
Age: 19-21	39	17.6%
Age: 22-44	78	35.1%
Age: 45-64	31	14.0%
Age: 65-74	1	0.5%
Age: 75+	-	-
Sex (Female)	182	82.0%
Sex (Male)	40	18.0%
Year (2015)	20	9.0%
Year (2016)	57	25.7%
Year (2017)	60	27.0%
Year (2018)	63	28.4%
Year (2019)	22	9.9%
Recorded history of, in the 183 days prior to drug initiation:		
Prior combined comorbidity score ⁴	0.5	1.1
Acquired Hypothyroidism	19	8.6%
Acute Myocardial Infarction	0	0.0%
Alzheimer's Disease	0	0.0%
Alzheimer's Disease, Related Disorders, or Senile Dementia	0	0.0%
Anemia	25	11.3%
Asthma	17	7.7%
Atrial Fibrillation	0	0.0%
Benign Prostatic Hyperplasia	0	0.0%
Breast Cancer	1	0.5%
Cataracts	8	3.6%
Chronic Kidney Disease	6	2.7%
Chronic Obstructive Pulmonary Disease	4	1.8%
Colorectal Cancer	0	0.0%
Depression	33	14.9%
Diabetes	8	3.6%
Endometrial Cancer	0	0.0%
Glaucoma	8	3.6%
Heart Failure	1	0.5%
Hip / Pelvic Fracture	1	0.5%
Hyperlipidemia	16	7.2%
Hypertension	31	14.0%
Ischemic Heart Disease	5	2.3%
Lung Cancer	0	0.0%
Osteoporosis	10	4.5%
Prostate Cancer	0	0.0%
Rheumatoid Arthritis / Osteoarthritis	222	100.0%
Stroke / Transient Ischemic Attack	2	0.9%
Health Service Utilization Intensity, in the 183 days prior to drug initiation:		
Mean number of ambulatory encounters (AV)	12.9	12.5

Table 1 d: Baseline characteristics of tocilizumab users with polyarticular juvenile idiopathic arthritis¹

Characteristic ²	N/Mean	%/Std Dev ³
Mean number of emergency room encounters (ED)	0.3	1.0
Mean number of inpatient hospital encounters (IP)	0.1	0.5
Mean number of non-acute institutional encounters (IS)	0.0	0.1
Mean number of other ambulatory encounters (OA)	2.3	3.7
Mean number of filled prescriptions	17.5	14.9
Mean number of generics	7.4	5.0
Mean number of unique drug classes	6.6	4.4

¹Baseline characteristics were evaluated for the 183 days prior to drug initiation.

²All metrics based on total number of unique patients .

³Value represents standard deviation where no % follows the value.

⁴The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051).

Table 1e: Baseline characteristics of polyarticular juvenile idiopathic arthritis patients¹

Characteristic ²	N/Mean	%/Std Dev ³
Number of unique patients	16,443	
Demographics		
Mean Age (Years)	26.5	18.9
Age: 00-01	96	0.6%
Age: 02-04	647	3.9%
Age: 05-09	1,656	10.1%
Age: 10-14	2,991	18.2%
Age: 15-18	2,803	17.0%
Age: 19-21	1,242	7.6%
Age: 22-44	3,719	22.6%
Age: 45-64	2,686	16.3%
Age: 65-74	11,746	71.4%
Age: 75+	317	1.9%
Sex (Female)	286	1.7%
Sex (Male)	4,697	28.6%
Year (2015)	3,941	24.0%
Year (2016)	4,935	30.0%
Year (2017)	3,448	21.0%
Year (2018)	3,355	20.4%
Year (2019)	764	4.6%
Recorded history of, in the 183 days prior to drug initiation:		
Prior combined comorbidity score ⁴	0.4	1.1
Acquired Hypothyroidism	994	6.0%
Acute Myocardial Infarction	36	0.2%
Alzheimer's Disease	13	0.1%
Alzheimer's Disease, Related Disorders, or Senile Dementia	54	0.3%
Anemia	1,172	7.1%
Asthma	1,229	7.5%
Atrial Fibrillation	158	1.0%
Benign Prostatic Hyperplasia	91	0.6%
Breast Cancer	102	0.6%
Cataracts	504	3.1%
Chronic Kidney Disease	590	3.6%
Chronic Obstructive Pulmonary Disease	394	2.4%
Colorectal Cancer	20	0.1%
Depression	1,542	9.4%
Diabetes	740	4.5%
Endometrial Cancer	11	0.1%
Glaucoma	522	3.2%
Heart Failure	133	0.8%
Hip / Pelvic Fracture	28	0.2%
Hyperlipidemia	1,435	8.7%
Hypertension	1,936	11.8%
Ischemic Heart Disease	282	1.7%
Lung Cancer	7	0.0%
Osteoporosis	331	2.0%
Prostate Cancer	29	0.2%
Rheumatoid Arthritis / Osteoarthritis	16,443	100.0%
Stroke / Transient Ischemic Attack	120	0.7%
Health Service Utilization Intensity, in the 183 days prior to drug initiation:		
Mean number of ambulatory encounters (AV)	8.9	8.8

Table 1e: Baseline characteristics of polyarticular juvenile idiopathic arthritis patients¹

Characteristic ²	N/Mean	%/Std Dev ³
Mean number of emergency room encounters (ED)	0.3	0.8
Mean number of inpatient hospital encounters (IP)	0.1	0.4
Mean number of non-acute institutional encounters (IS)	0.0	0.1
Mean number of other ambulatory encounters (OA)	1.7	4.5
Mean number of filled prescriptions	10.2	12.1
Mean number of generics	4.6	4.4
Mean number of unique drug classes	4.3	4.0

¹Baseline characteristics were evaluated for the 183 days prior to drug initiation.

²All metrics based on total number of unique patients .

³Value represents standard deviation where no % follows the value.

⁴The Combined Comorbidity Score is calculated based on comorbidities observed during a requester-defined window around the exposure episode start date. (Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A Combined Comorbidity Score Predicted Mortality in Elderly Patients Better Than Existing Scores. J Clin Epidemiol. 2011;64(7):749-759; Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and Validation of the Combined Comorbidity Score for ICD-10-CM. Med Care. 2017;55(12):1046-1051).

Table 2a: Descriptive statistics of cumulative exposure duration, all episodes, in days

Exposures	Total Patients	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	231.46	211.83	1	84	168	308	1,098
Adalimumab	1,765	284.53	253.38	1	84	198	420	1,251
Etanercept	1,841	301.21	262.03	1	89	222	448	1,228
Tocilizumab	222	234.74	233.71	5	77	145	336	1,175
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	5.98	10.51	1	1	2	6	464

Table 2b: Descriptive statistics of cumulative exposure duration, all episodes, in days, by sex

Exposures	Total Patients	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	231.46	211.83	1	84	168	308	1,098
Female	184	219.54	203.14	1	84	153	280	1,098
Male	30	304.57	250.50	28	112	238	504	839
Other	0	-	-	-	-	-	-	-
Adalimumab	1,765	284.53	253.38	1	84	198	420	1,251
Female	1,233	272.80	250.33	1	84	185	402	1,251
Male	532	311.72	258.53	2	116	230	450	1,230
Other	0	-	-	-	-	-	-	-
Etanercept	1,841	301.21	262.03	1	89	222	448	1,228
Female	1,347	295.85	260.37	1	84	215	438	1,194
Male	494	315.84	266.23	1	109	224	466	1,228
Other	0	-	-	-	-	-	-	-
Tocilizumab	222	234.74	233.71	5	77	145	336	1,175
Female	182	233.27	231.66	5	72	145	336	1,175
Male	40	241.40	245.72	12	83	142	401	994
Other	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	5.98	10.51	1	1	2	6	464
Female	11,746	6.24	10.26	1	1	2	7	185
Male	4,697	5.31	11.08	1	1	2	5	464
Other	0	-	-	-	-	-	-	-

Table 2c: Descriptive statistics of cumulative exposure duration, all episodes, in days, by age group (years)

Exposures	Total Patients	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	231.46	211.83	1	84	168	308	1,098
00-01	0	-	-	-	-	-	-	-
02-04	0	-	-	-	-	-	-	-
05-09	6	145.67	189.77	6	35	58	213	504
10-14	14	254.00	252.15	28	56	175	336	839
15-18	49	224.61	151.67	28	112	188	311	601
19-21	38	255.95	234.59	17	112	192	298	1,098
22-44	73	216.03	222.61	1	56	130	280	924
45-64	31	254.90	231.46	12	84	168	310	867
65-74	3	233.00	249.36	55	55	126	518	518
75+	0	-	-	-	-	-	-	-
Adalimumab	1,765	284.53	253.38	1	84	198	420	1,251
00-01	2	62.00	48.08	28	28	62	96	96
02-04	48	297.25	242.58	16	74	224	506	934
05-09	184	311.67	267.58	5	95	230	450	1,081
10-14	395	297.44	260.86	2	110	216	423	1,196
15-18	455	278.95	250.44	2	84	196	426	1,084
19-21	175	282.11	236.90	2	104	219	432	1,006
22-44	362	254.62	234.21	1	84	184	336	1,230
45-64	128	317.16	290.87	1	100	212	468	1,251
65-74	11	256.55	272.40	28	97	142	428	965
75+	5	217.00	237.76	55	55	84	285	606
Etanercept	1,841	301.21	262.03	1	89	222	448	1,228
00-01	4	360.00	169.93	196	245	325	476	595
02-04	84	328.89	275.34	5	112	224	532	1,082
05-09	197	357.38	291.85	1	112	252	556	1,194
10-14	408	306.18	256.90	2	103	223	448	1,228
15-18	405	273.55	252.45	2	84	188	398	1,172
19-21	166	256.52	224.37	1	80	171	404	1,071
22-44	400	276.44	245.25	3	84	197	405	1,174
45-64	162	376.25	303.70	1	140	280	557	1,165
65-74	13	326.15	241.75	56	174	221	452	924
75+	2	503.00	444.06	189	189	503	817	817
Tocilizumab	222	234.74	233.71	5	77	145	336	1,175
00-01	0	-	-	-	-	-	-	-
02-04	2	104.00	11.31	96	96	104	112	112
05-09	9	220.33	338.29	5	28	61	237	1,054
10-14	22	136.68	119.45	24	51	86	224	364

Table 2c: Descriptive statistics of cumulative exposure duration, all episodes, in days, by age group (years)

Exposures	Total Patients	Mean	STD	Min	Q1	Median	Q3	Max
15-18	40	242.55	230.36	12	87	156	364	1,175
19-21	39	291.67	288.29	14	84	168	495	1,036
22-44	78	219.19	205.10	13	68	140	336	840
45-64	31	265.65	251.05	28	112	179	284	994
65-74	1	505.00	-	505	505	505	505	505
75+	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	5.98	10.51	1	1	2	6	464
00-01	96	13.93	15.34	1	3	10	19	108
02-04	647	11.10	14.57	1	2	6	16	114
05-09	1,656	9.68	12.68	1	2	5	13	116
10-14	2,991	8.44	11.94	1	1	4	10	118
15-18	2,803	7.08	13.37	1	1	3	8	464
19-21	1,242	5.16	9.13	1	1	2	5	139
22-44	3,719	3.68	6.61	1	1	2	4	185
45-64	2,686	2.71	4.88	1	1	1	2	78
65-74	317	2.24	3.59	1	1	1	2	35
75+	286	1.74	2.57	1	1	1	1	27

Table 3a: Descriptive statistics of first exposure episode duration, in days

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	77.09	81.66	1	28	47	84	601
Adalimumab	1,765	84.70	112.09	1	28	55	84	1,077
Etanercept	1,841	80.15	109.32	1	28	28	84	1,097
Tocilizumab	222	75.02	90.19	4	28	35	84	681
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	1.03	0.24	1	1	1	1	20

Table 3b: Descriptive statistics of first exposure episode duration, in days, by sex								
Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	77.09	81.66	1	28	47	84	601
Female	184	75.04	75.01	1	28	33	85	588
Male	30	89.63	115.27	28	28	56	84	601
Other	0	-	-	-	-	-	-	-
Adalimumab	1,765	84.70	112.09	1	28	55	84	1,077
Female	1,233	83.84	111.84	1	28	49	84	1,077
Male	532	86.70	112.74	1	28	56	84	992
Other	0	-	-	-	-	-	-	-
Etanercept	1,841	80.15	109.32	1	28	28	84	1,097
Female	1,347	78.50	106.11	1	28	28	84	1,041
Male	494	84.67	117.63	1	28	33	84	1,097
Other	0	-	-	-	-	-	-	-
Tocilizumab	222	75.02	90.19	4	28	35	84	681
Female	182	72.85	89.14	5	28	39	84	681
Male	40	84.90	95.34	4	28	32	84	392
Other	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	1.03	0.24	1	1	1	1	20
Female	11,746	1.03	0.26	1	1	1	1	20
Male	4,697	1.03	0.20	1	1	1	1	5
Other	0	-	-	-	-	-	-	-

Table 3c: Descriptive statistics of first exposure episode duration, in days, by age group (years)

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	214	77.09	81.66	1	28	47	84	601
00-01	0	-	-	-	-	-	-	-
02-04	0	-	-	-	-	-	-	-
05-09	6	25.83	10.09	6	28	28	30	35
10-14	14	75.29	68.52	28	28	55	84	259
15-18	49	84.53	102.71	28	28	28	84	601
19-21	38	88.32	64.96	17	28	84	140	257
22-44	73	72.93	86.91	1	28	28	84	588
45-64	31	75.00	64.47	12	28	56	84	255
65-74	3	47.00	14.73	30	30	55	56	56
75+	0	-	-	-	-	-	-	-
Adalimumab	1,765	84.70	112.09	1	28	55	84	1,077
00-01	2	62.00	48.08	28	28	62	96	96
02-04	48	113.38	145.44	16	28	56	140	608
05-09	184	95.87	148.10	1	28	47	84	1,077
10-14	395	89.86	112.72	1	28	56	112	924
15-18	455	81.07	111.75	1	28	55	84	1,067
19-21	175	67.45	87.13	2	28	28	84	579
22-44	362	76.64	92.65	1	28	52	84	646
45-64	128	103.40	119.05	1	28	56	138	538
65-74	11	78.55	68.80	28	28	56	105	254
75+	5	54.20	30.14	20	28	55	84	84
Etanercept	1,841	80.15	109.32	1	28	28	84	1,097
00-01	4	35.50	13.70	28	28	29	43	56
02-04	84	90.00	114.87	5	28	30	112	672
05-09	197	105.21	144.79	1	28	56	112	1,097
10-14	408	83.95	120.32	1	28	29	84	1,041
15-18	405	82.72	120.12	2	28	28	84	840
19-21	166	57.26	63.82	1	28	28	63	504
22-44	400	69.92	82.27	3	28	28	84	838
45-64	162	78.72	92.06	1	28	55	84	635
65-74	13	69.62	57.67	28	28	28	84	196
75+	2	126.00	59.40	84	84	126	168	168
Tocilizumab	222	75.02	90.19	4	28	35	84	681
00-01	0	-	-	-	-	-	-	-
02-04	2	104.00	11.31	96	96	104	112	112
05-09	9	85.11	111.17	5	28	56	84	364
10-14	22	72.55	79.92	24	28	28	77	327

Table 3c: Descriptive statistics of first exposure episode duration, in days, by age group (years)

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
15-18	40	98.23	117.44	4	28	56	101	530
19-21	39	73.69	123.43	14	28	28	83	681
22-44	78	59.05	46.31	13	28	33	84	252
45-64	31	83.58	88.68	28	28	56	84	392
65-74	1	84.00	-	84	84	84	84	84
75+	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	1.03	0.24	1	1	1	1	20
00-01	96	1.07	0.26	1	1	1	1	2
02-04	647	1.04	0.21	1	1	1	1	3
05-09	1,656	1.03	0.20	1	1	1	1	4
10-14	2,991	1.03	0.19	1	1	1	1	4
15-18	2,803	1.03	0.19	1	1	1	1	5
19-21	1,242	1.04	0.23	1	1	1	1	4
22-44	3,719	1.03	0.37	1	1	1	1	20
45-64	2,686	1.02	0.16	1	1	1	1	3
65-74	317	1.03	0.16	1	1	1	1	2
75+	286	1.03	0.30	1	1	1	1	5

Table 4a: Descriptive statistics of all exposure episode durations, in days

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	58.69	63.38	1	28	28	82	601
Adalimumab	7,759	64.72	84.91	1	28	28	84	1,083
Etanercept	9,484	58.47	74.94	1	28	28	56	1,144
Tocilizumab	864	60.31	68.62	2	28	28	73	681
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	1.04	0.32	1	1	1	1	43

Table 4b: Descriptive statistics of all exposure episode durations, in days, by sex

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	58.69	63.38	1	28	28	82	601
Female	693	58.29	62.56	1	28	28	78	588
Male	151	60.51	67.20	7	28	28	84	601
Other	0	-	-	-	-	-	-	-
Adalimumab	7,759	64.72	84.91	1	28	28	84	1,083
Female	5,189	64.82	83.89	1	28	28	84	1,083
Male	2,570	64.53	86.95	1	28	28	80	992
Other	0	-	-	-	-	-	-	-
Etanercept	9,484	58.47	74.94	1	28	28	56	1,144
Female	6,862	58.07	72.72	1	28	28	56	1,041
Male	2,622	59.51	80.45	1	28	28	56	1,144
Other	0	-	-	-	-	-	-	-
Tocilizumab	864	60.31	68.62	2	28	28	73	681
Female	718	59.13	67.96	3	28	28	61	681
Male	146	66.14	71.74	2	28	28	84	392
Other	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	1.04	0.32	1	1	1	1	43
Female	70,496	1.04	0.34	1	1	1	1	43
Male	23,905	1.04	0.24	1	1	1	1	9
Other	0	-	-	-	-	-	-	-

Table 4c: Descriptive statistics of all exposure episode durations, in days, by age group (years)

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	58.69	63.38	1	28	28	82	601
00-01	0	-	-	-	-	-	-	-
02-04	0	-	-	-	-	-	-	-
05-09	19	46.00	38.72	6	28	28	56	168
10-14	61	58.30	55.33	3	27	28	84	336
15-18	171	64.36	73.85	4	28	28	84	601
19-21	151	64.41	68.17	1	28	28	84	504
22-44	303	52.05	57.19	1	28	28	56	588
45-64	132	59.86	53.38	12	28	28	84	255
65-74	7	99.86	158.77	14	30	55	56	458
75+	0	-	-	-	-	-	-	-
Adalimumab	7,759	64.72	84.91	1	28	28	84	1,083
00-01	2	62.00	48.08	28	28	62	96	96
02-04	218	65.45	86.99	6	28	28	56	608
05-09	791	72.50	100.79	1	28	28	80	1,077
10-14	1,746	67.29	91.43	1	28	28	84	925
15-18	2,038	62.28	82.99	1	28	28	79	1,067
19-21	849	58.15	64.69	1	28	28	76	591
22-44	1,516	60.80	73.92	1	28	28	84	978
45-64	529	76.74	100.64	1	28	30	84	1,083
65-74	44	64.14	66.68	8	28	28	77	280
75+	26	41.73	49.12	6	20	20	40	220
Etanercept	9,484	58.47	74.94	1	28	28	56	1,144
00-01	25	57.60	69.44	25	28	30	56	287
02-04	461	59.93	74.55	4	28	28	56	672
05-09	1,120	62.86	89.29	1	28	28	59	1,097
10-14	2,046	61.06	84.76	1	28	28	56	1,144
15-18	1,926	57.52	78.40	1	28	28	56	840
19-21	878	48.50	46.92	1	28	28	56	504
22-44	2,002	55.23	62.38	1	28	28	56	922
45-64	957	63.69	67.69	1	28	28	84	635
65-74	65	65.23	78.14	28	28	28	84	504
75+	4	251.50	326.60	21	53	126	451	733
Tocilizumab	864	60.31	68.62	2	28	28	73	681
00-01	0	-	-	-	-	-	-	-
02-04	2	104.00	11.31	96	96	104	112	112
05-09	23	86.22	141.50	5	21	28	111	628
10-14	53	56.74	59.54	3	28	28	56	327

Table 4c: Descriptive statistics of all exposure episode durations, in days, by age group (years)

Exposures	Total Episodes	Mean	STD	Min	Q1	Median	Q3	Max
15-18	128	75.80	90.98	2	28	41	84	530
19-21	223	51.01	60.69	4	28	28	56	681
22-44	310	55.15	51.15	3	28	28	56	391
45-64	121	68.06	72.51	3	28	28	84	420
65-74	4	126.25	95.30	29	57	112	196	252
75+	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	1.04	0.32	1	1	1	1	43
00-01	1,267	1.06	0.24	1	1	1	1	4
02-04	6,917	1.04	0.20	1	1	1	1	4
05-09	15,451	1.04	0.21	1	1	1	1	5
10-14	24,345	1.04	0.21	1	1	1	1	7
15-18	18,968	1.05	0.26	1	1	1	1	6
19-21	6,167	1.04	0.22	1	1	1	1	5
22-44	13,071	1.05	0.63	1	1	1	1	43
45-64	7,053	1.03	0.26	1	1	1	1	10
65-74	696	1.02	0.14	1	1	1	1	2
75+	466	1.07	0.38	1	1	1	1	5

Table 5a: Descriptive statistics of days supplied per dispensing

Exposures	Total Dispensings	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	1,509	32.83	17.10	1	28	28	28	112
Adalimumab	15,831	31.72	15.93	1	28	28	28	194
Etanercept	17,170	32.30	16.15	1	28	28	28	168
Tocilizumab	1,600	32.57	17.22	2	28	28	28	180
Polyarticular Juvenile Idiopathic Arthritis patients	114,062	1.00	0.00	1	1	1	1	1

Table 5b: Descriptive statistics of days supplied per dispensing, by sex

Exposures	Total Dispensings	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	1,509	32.83	17.10	1	28	28	28	112
Female	1,239	32.60	16.89	1	28	28	28	112
Male	270	33.84	18.00	7	28	28	28	84
Other	0	-	-	-	-	-	-	-
Adalimumab	15,831	31.72	15.93	1	28	28	28	194
Female	10,521	31.97	16.48	1	28	28	28	194
Male	5,310	31.23	14.79	1	28	28	28	84
Other	0	-	-	-	-	-	-	-
Etanercept	17,170	32.30	16.15	1	28	28	28	168
Female	12,286	32.44	16.33	1	28	28	28	112
Male	4,884	31.95	15.70	1	28	28	28	168
Other	0	-	-	-	-	-	-	-
Tocilizumab	1,600	32.57	17.22	2	28	28	28	180
Female	1,309	32.43	17.13	3	28	28	28	180
Male	291	33.18	17.63	2	28	28	28	84
Other	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	114,062	1.00	0.00	1	1	1	1	1
Female	85,308	1.00	0.00	1	1	1	1	1
Male	28,754	1.00	0.00	1	1	1	1	1
Other	0	-	-	-	-	-	-	-

Table 5c: Descriptive statistics of days supplied per dispensing, by age group (years)

Exposures	Total Dispensings	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	1,509	32.83	17.10	1	28	28	28	112
00-01	0	-	-	-	-	-	-	-
02-04	0	-	-	-	-	-	-	-
05-09	26	33.62	23.29	6	28	28	28	112
10-14	115	30.92	15.16	1	27	28	28	84
15-18	372	29.59	11.67	3	28	28	28	84
19-21	279	34.86	19.34	1	28	28	28	90
22-44	483	32.65	16.46	1	28	28	28	84
45-64	216	36.58	21.10	3	28	28	28	84
65-74	18	38.83	25.59	6	28	28	30	84
75+	0	-	-	-	-	-	-	-
Adalimumab	15,831	31.72	15.93	1	28	28	28	194
00-01	5	24.80	7.16	12	28	28	28	28
02-04	461	30.95	12.43	5	28	28	28	84
05-09	1,898	30.21	12.98	1	28	28	28	84
10-14	3,934	29.87	12.09	1	28	28	28	90
15-18	4,117	30.83	15.21	1	28	28	28	90
19-21	1,460	33.81	18.39	1	28	28	28	194
22-44	2,719	33.91	19.10	1	28	28	28	168
45-64	1,104	36.77	21.69	1	28	28	28	168
65-74	94	30.02	11.56	8	28	28	28	84
75+	39	27.82	20.33	6	20	20	20	84
Etanercept	17,170	32.30	16.15	1	28	28	28	168
00-01	47	30.64	11.14	7	28	28	30	84
02-04	851	32.46	13.63	1	28	28	28	94
05-09	2,231	31.56	14.93	1	28	28	28	90
10-14	3,978	31.40	14.54	1	28	28	28	112
15-18	3,548	31.23	14.19	1	28	28	28	90
19-21	1,320	32.31	19.71	1	28	28	28	168
22-44	3,286	33.65	17.86	1	28	28	28	112
45-64	1,772	34.40	18.55	1	28	28	28	84
65-74	120	35.33	19.54	4	28	28	28	84
75+	17	59.18	28.33	21	28	84	84	84
Tocilizumab	1,600	32.57	17.22	2	28	28	28	180
00-01	0	-	-	-	-	-	-	-
02-04	8	26.00	5.66	12	28	28	28	28
05-09	69	28.74	12.76	5	28	28	30	84
10-14	102	29.48	9.51	3	28	28	28	56

Table 5c: Descriptive statistics of days supplied per dispensing, by age group (years)

Exposures	Total Dispensings	Mean	STD	Min	Q1	Median	Q3	Max
15-18	290	33.46	18.55	2	28	28	28	116
19-21	374	30.41	14.88	3	28	28	28	180
22-44	531	32.20	16.33	3	28	28	28	90
45-64	216	38.13	22.49	3	28	28	28	84
65-74	10	50.50	28.83	28	28	29	84	84
75+	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	114,062	1.00	0.00	1	1	1	1	1
00-01	1,593	1.00	0.00	1	1	1	1	1
02-04	8,413	1.00	0.00	1	1	1	1	1
05-09	18,914	1.00	0.00	1	1	1	1	1
10-14	29,798	1.00	0.00	1	1	1	1	1
15-18	23,120	1.00	0.00	1	1	1	1	1
19-21	7,551	1.00	0.00	1	1	1	1	1
22-44	15,425	1.00	0.00	1	1	1	1	1
45-64	7,957	1.00	0.00	1	1	1	1	1
65-74	765	1.00	0.00	1	1	1	1	1
75+	526	1.00	0.00	1	1	1	1	1

Table 6a: Descriptive statistics of the length of all gaps between treatment episodes, in days

Exposures	Total Gaps	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	67.92	168.75	0	3	10	34	1,182
Adalimumab	7,759	46.28	128.89	0	2	8	26	1,243
Etanercept	9,484	51.98	136.45	0	4	13	34	1,231
Tocilizumab	864	47.92	133.22	0	2	9	25	1,175
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	94.85	173.83	0	12	34	93	1,276

Table 6b: Descriptive statistics of the length of all gaps between treatment episodes, in days, by sex

Exposures	Total Gaps	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	67.92	168.75	0	3	10	34	1,182
Female	693	69.12	167.94	0	3	11	32	1,081
Male	151	62.41	172.91	0	3	9	39	1,182
Other	0	-	-	-	-	-	-	-
Adalimumab	7,759	46.28	128.89	0	2	8	26	1,243
Female	5,189	49.76	138.08	0	2	8	27	1,243
Male	2,570	39.26	107.66	0	3	9	26	1,124
Other	0	-	-	-	-	-	-	-
Etanercept	9,484	51.98	136.45	0	4	13	34	1,231
Female	6,862	54.75	141.73	0	4	13	34	1,231
Male	2,622	44.75	121.27	0	3	11	32	1,219
Other	0	-	-	-	-	-	-	-
Tocilizumab	864	47.92	133.22	0	2	9	25	1,175
Female	718	49.87	138.59	0	2	9	26	1,175
Male	146	38.34	102.62	0	2	9	23	635
Other	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	94.85	173.83	0	12	34	93	1,276
Female	70,496	90.90	167.70	0	12	33	90	1,276
Male	23,905	106.48	190.32	0	12	37	104	1,276
Other	0	-	-	-	-	-	-	-

Table 6c: Descriptive statistics of the length of all gaps between treatment episodes, in days, by age group (years)

Exposures	Total Gaps	Mean	STD	Min	Q1	Median	Q3	Max
Abatacept	844	67.92	168.75	0	3	10	34	1,182
00-01	0	-	-	-	-	-	-	-
02-04	0	-	-	-	-	-	-	-
05-09	19	90.00	249.87	0	1	5	27	969
10-14	61	47.41	142.04	0	2	7	22	930
15-18	171	71.63	167.65	0	2	10	38	860
19-21	151	92.75	210.17	0	3	13	41	1,182
22-44	303	59.05	144.44	0	5	12	30	1,081
45-64	132	64.79	169.94	0	3	10	33	1,061
65-74	7	3.43	4.79	0	0	1	5	13
75+	0	-	-	-	-	-	-	-
Adalimumab	7,759	46.28	128.89	0	2	8	26	1,243
00-01	2	1.50	2.12	0	0	2	3	3
02-04	218	23.88	63.85	0	1	6	17	622
05-09	791	28.38	90.94	0	1	6	17	1,075
10-14	1,746	42.64	126.86	0	2	7	21	1,238
15-18	2,038	50.99	141.03	0	3	11	28	1,159
19-21	849	60.84	151.87	0	4	12	40	1,243
22-44	1,516	49.15	125.86	0	3	10	32	1,124
45-64	529	47.11	124.08	0	2	8	26	1,081
65-74	44	35.64	106.67	0	1	8	20	616
75+	26	16.65	39.67	0	5	8	11	207
Etanercept	9,484	51.98	136.45	0	4	13	34	1,231
00-01	25	26.96	32.14	0	6	16	38	143
02-04	461	39.62	98.83	0	4	13	32	1,075
05-09	1,120	48.57	140.07	0	4	12	29	1,219
10-14	2,046	54.12	144.27	0	4	12	34	1,231
15-18	1,926	65.19	161.57	0	4	14	38	1,180
19-21	878	64.91	151.94	0	5	15	50	1,110
22-44	2,002	44.06	111.90	0	3	11	33	1,157
45-64	957	35.90	103.49	0	3	9	25	1,160
65-74	65	58.68	108.11	0	8	24	51	509
75+	4	3.00	3.56	0	0	3	6	7
Tocilizumab	864	47.92	133.22	0	2	9	25	1,175
00-01	0	-	-	-	-	-	-	-
02-04	2	53.50	75.66	0	0	54	107	107
05-09	23	29.13	60.33	0	0	7	35	285
10-14	53	40.08	161.09	0	1	5	12	1,073

Table 6c: Descriptive statistics of the length of all gaps between treatment episodes, in days, by age group (years)

Exposures	Total Gaps	Mean	STD	Min	Q1	Median	Q3	Max
15-18	128	47.13	96.70	0	2	10	32	535
19-21	223	41.86	115.21	0	3	9	27	1,046
22-44	310	53.97	149.09	0	2	8	22	1,175
45-64	121	52.88	153.71	0	3	8	26	969
65-74	4	2.50	1.73	0	2	3	4	4
75+	0	-	-	-	-	-	-	-
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	94.85	173.83	0	12	34	93	1,276
00-01	1,267	38.56	83.81	0	6	18	43	1,065
02-04	6,917	52.14	106.41	0	8	24	60	1,265
05-09	15,451	64.18	117.80	0	9	28	72	1,276
10-14	24,345	71.16	133.98	0	10	28	76	1,276
15-18	18,968	86.75	161.19	0	12	30	90	1,272
19-21	6,167	117.41	193.44	0	15	43	120	1,262
22-44	13,071	135.61	206.21	0	19	58	156	1,276
45-64	7,053	198.19	280.77	0	26	80	229	1,276
65-74	696	208.78	279.49	1	24	83	298	1,248
75+	466	289.03	333.36	1	33	145	438	1,271

Table 7: Counts of reason for censoring, all episodes and first episode								
	Total		Disenrollment		Evidence of death		Episode end	
	N	%	N	%	N	%	N	%
All Episodes								
Abatacept	844	100.0	94	11.1	0	0.0	844	100.0
Adalimumab	7,759	100.0	1,019	13.1	0	0.0	7,759	100.0
Etanercept	9,484	100.0	896	9.4	0	0.0	9,484	100.0
Tocilizumab	864	100.0	121	14.0	0	0.0	864	100.0
Polyarticular Juvenile Idiopathic Arthritis patients	94,401	100.0	42	0.0	0	0.0	94,401	100.0
First Episode								
Abatacept	214	100.0	32	15.0	0	0.0	214	100.0
Adalimumab	1,765	100.0	277	15.7	0	0.0	1,765	100.0
Etanercept	1,841	100.0	190	10.3	0	0.0	1,841	100.0
Tocilizumab	222	100.0	34	15.3	0	0.0	222	100.0
Polyarticular Juvenile Idiopathic Arthritis patients	16,443	100.0	4	0.0	0	0.0	16,443	100.0

Table 8: Cohort Attrition Table

Attrition Criteria	Members
Abatacept	
Initial Member Count - Members with a non-missing birth date/sex at any enrollment episode overlapping the query period	50,793,879 (100.0%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N and DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must satisfy the age range condition within the query period	47,489,733 (93.5%)
Exclusion - Members must meet chart availability criterion within the query period	47,489,733 (93.5%)
Exclusion - Members must satisfy the demographic (sex, race and hispanic) condition	47,489,733 (93.5%)
Exclusion - Members must have at least one claim with cohort-identifying codes within the query period	7,344 (0.0%)
Exclusion - Members must have at least one cohort episode beginning within the age range condition	7,344 (0.0%)
Exclusion - Members must have at least one episode defining index claim during the query period	7,078 (0.0%)
Exclusion - Members must have at least one cohort episode incident with respect to other criteria	7,078 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the pre-index enrollment criterion	6,375 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the exclusion conditions	6,375 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the inclusion conditions	214 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the post-index enrollment criterion	214 (0.0%)
Adalimumab	
Initial Member Count - Members with a non-missing birth date/sex at any enrollment episode overlapping the query period	50,793,879 (100.0%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N and DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must satisfy the age range condition within the query period	47,489,733 (93.5%)
Exclusion - Members must meet chart availability criterion within the query period	47,489,733 (93.5%)
Exclusion - Members must satisfy the demographic (sex, race and hispanic) condition	47,489,733 (93.5%)
Exclusion - Members must have at least one claim with cohort-identifying codes within the query period	106,756 (0.2%)
Exclusion - Members must have at least one cohort episode beginning within the age range condition	106,756 (0.2%)
Exclusion - Members must have at least one episode defining index claim during the query period	101,468 (0.2%)
Exclusion - Members must have at least one cohort episode incident with respect to other criteria	101,468 (0.2%)
Exclusion - Members must have at least one cohort episode satisfying the pre-index enrollment criterion	87,897 (0.2%)
Exclusion - Members must have at least one cohort episode satisfying the exclusion conditions	87,897 (0.2%)
Exclusion - Members must have at least one cohort episode satisfying the inclusion conditions	1,765 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the post-index enrollment criterion	1,765 (0.0%)
Etanercept	
Initial Member Count - Members with a non-missing birth date/sex at any enrollment episode overlapping the query period	50,793,879 (100.0%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N and DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must satisfy the age range condition within the query period	47,489,733 (93.5%)

Table 8: Cohort Attrition Table

Attrition Criteria	Members
Exclusion - Members must meet chart availability criterion within the query period	47,489,733 (93.5%)
Exclusion - Members must satisfy the demographic (sex, race and hispanic) condition	47,489,733 (93.5%)
Exclusion - Members must have at least one claim with cohort-identifying codes within the query period	52,264 (0.1%)
Exclusion - Members must have at least one cohort episode beginning within the age range condition	52,264 (0.1%)
Exclusion - Members must have at least one episode defining index claim during the query period	49,754 (0.1%)
Exclusion - Members must have at least one cohort episode incident with respect to other criteria	49,754 (0.1%)
Exclusion - Members must have at least one cohort episode satisfying the pre-index enrollment criterion	44,355 (0.1%)
Exclusion - Members must have at least one cohort episode satisfying the exclusion conditions	44,355 (0.1%)
Exclusion - Members must have at least one cohort episode satisfying the inclusion conditions	1,841 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the post-index enrollment criterion	1,841 (0.0%)
Tocilizumab	
Initial Member Count - Members with a non-missing birth date/sex at any enrollment episode overlapping the query period	50,793,879 (100.0%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N and DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must satisfy the age range condition within the query period	47,489,733 (93.5%)
Exclusion - Members must meet chart availability criterion within the query period	47,489,733 (93.5%)
Exclusion - Members must satisfy the demographic (sex, race and hispanic) condition	47,489,733 (93.5%)
Exclusion - Members must have at least one claim with cohort-identifying codes within the query period	4,517 (0.0%)
Exclusion - Members must have at least one cohort episode beginning within the age range condition	4,517 (0.0%)
Exclusion - Members must have at least one episode defining index claim during the query period	4,311 (0.0%)
Exclusion - Members must have at least one cohort episode incident with respect to other criteria	4,311 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the pre-index enrollment criterion	3,871 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the exclusion conditions	3,871 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the inclusion conditions	222 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the post-index enrollment criterion	222 (0.0%)
Polyarticular Juvenile Idiopathic Arthritis patients	
Initial Member Count - Members with a non-missing birth date/sex at any enrollment episode overlapping the query period	50,793,879 (100.0%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N during the query period	47,490,984 (93.5%)
Exclusion - Members must be excluded if they only have enrollment episodes with DrugCov=Y and MedCov=N and DrugCov=N and MedCov=Y during the query period	47,490,984 (93.5%)
Exclusion - Members must satisfy the age range condition within the query period	47,489,733 (93.5%)
Exclusion - Members must meet chart availability criterion within the query period	47,489,733 (93.5%)
Exclusion - Members must satisfy the demographic (sex, race and hispanic) condition	47,489,733 (93.5%)
Exclusion - Members must have at least one claim with cohort-identifying codes within the query period	18,546 (0.0%)
Exclusion - Members must have at least one cohort episode beginning within the age range condition	18,546 (0.0%)
Exclusion - Members must have at least one episode defining index claim during the query period	18,546 (0.0%)
Exclusion - Members must have at least one cohort episode incident with respect to other criteria	18,546 (0.0%)

Table 8: Cohort Attrition Table

Attrition Criteria	Members
Exclusion - Members must have at least one cohort episode satisfying the pre-index enrollment criterion	16,443 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the exclusion conditions	16,443 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the inclusion conditions	16,443 (0.0%)
Exclusion - Members must have at least one cohort episode satisfying the post-index enrollment criterion	16,443 (0.0%)

Appendix A. Dates of Available Data for Each Data Partner (DP) up to Request End Date (03/31/2019) as of Query Distribution Date

Data Partner (Masked)	Start Date	End Date
DP01	01/01/2010	03/31/2019

Global Values

Enrollment Criteria:**Medical and Drug Coverage**

Enrollment Gap (Days):**45**

Age Groups (Years):**00-01, 02-04, 05-09, 10-14, 15-18, 19-21, 22-44, 45-64, 65-74, 75+**

Query Period: **10/01/2015-03/31/2019**

Baseline Characteristics Table:**Yes**

Baseline Evaluation Window (Day): **-183,0**

#	Cohort Name	Index Exposure	Pre-Index Enrollment Period (Days)	Washout Period (Days)	Treatment Episode Gap (Days)	Treatment Episode Extension (Days)	Inclusion/Exclusion	Criteria	Criteria Definition	Evaluation Period Start (Day)	Evaluation Period End (Day)
1	Tocilizumab	Tocilizumab ^[1]	183	0	0	0	Inclusion	pJIA	pJIA ^[2]	-183	0
							--	--	--	--	--
2	Polyarticular Juvenile Idiopathic Arthritis patients	pJIA ^[3]	183	0	0	0	--	--	--	--	--
							--	--	--	--	--
3	Abatacept	Abatacept ^[4]	183	0	0	0	Inclusion	pJIA	pJIA ^[5]	-183	0
							--	--	--	--	--
4	Adalimumab	Adalimumab ^[6]	183	0	0	0	Inclusion	pJIA	pJIA ^[7]	-183	0
							--	--	--	--	--
5	Etanercept	Etanercept ^[8]	183	0	0	0	Inclusion	pJIA	pJIA ^[9]	-183	0
							--	--	--	--	--

ICD-9,ICD-10,HCPCS AND CPT are provided by Optum360
NDCs are checked against First Data Bank's MedKnowledge.

Appendix of Generic Names and Chronic Conditions

- [1] See Appendices C and D for index exposure definitions.
- [2] See Appendix E for inclusion criteria definitions.
- [3] See Appendices C and D for index exposure definitions.
- [4] See Appendices C and D for index exposure definitions.
- [5] See Appendix E for inclusion criteria definitions.
- [6] See Appendices C and D for index exposure definitions.
- [7] See Appendix E for inclusion criteria definitions.
- [8] See Appendices C and D for index exposure definitions.
- [9] See Appendix E for inclusion criteria definitions.

Baseline Characteristics Table

Acquired Hypothyroidism	Chronic Kidney Disease	Hypertension
Acute Myocardial Infarction	Chronic Obstructive Pulmonary Disease	Ischemic Heart Disease
Alzheimer's Disease	Colorectal Cancer	Lung Cancer
Alzheimer's Disease, Related Disorders, or Senile Dementia	Depression	Osteoporosis
Anemia	Diabetes	Prostate Cancer
Asthma	Endometrial Cancer	Rheumatoid Arthritis / Osteoarthritis
Atrial Fibrillation	Glaucoma	Stroke / Transient Ischemic Attack
Benign Prostatic Hyperplasia	Heart Failure	
Breast Cancer	Hip / Pelvic Fracture	
Cataracts	Hyperlipidemia	

Glossary of Terms for Analyses Using Cohort Identification and Descriptive Analysis (CIDA) Module

- Age Groups** - Age groups of members included in the cohort. Strata also used for reporting purposes.
- Ambulatory Visit (AV)** - A care setting value including visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.
- Baseline Characteristics Table** - Optional table containing general characteristics of study population, including background rates of 27 chronic conditions from the CMS Chronic Condition Warehouse (see above if table requested). Users define an evaluation period for the presence of baseline characteristics.
- Care Setting** - Type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.
- Charlson/Elixhauser Combined Comorbidity Score** - Calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).
- Cohort Definition** - Cohort includes all valid exposure episodes during the query period. Only the first valid episode's incidence is assessed using the washout period.
- Emergency Department (ED)** - A care setting value including ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.
- Enrollment Criteria** - Type of coverage required during enrollment period. By default, all patients must have medical and drug coverage.
- Enrollment Gap** - Allowed gap between coverage periods.
- Episodes** - Treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.
- Inclusion/Exclusion** - Contains the comprehensive set of codes used to define additional cohort inclusion and/or exclusion criteria (e.g., restrict cohort to individuals with evidence of a pre-existing condition 183 days before the index date). Criteria could be defined with complex algorithms (e.g., diagnosis codes and drug codes) defined under Criteria Definition.
- Inpatient Hospital Stay (IP)** - A care setting value including all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.
- Non-Acute Institutional Stay (IS)** - A care setting value including hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.
- Other Ambulatory Visit (OA)** - A care setting value including other non-overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.
- Principal Diagnosis (PDX)** - Diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.
- Query Period** - The period of time which patients can contribute index-defining exposure/events. Data prior to the start date may be used to determine enrollment, washout, and other cohort inclusion criteria.
- Treatment Episode Extension** - The episode extension adds the selected number of days to the end of an episode to count as exposed time.
- Treatment Episode Gap** - The maximum number of days allowed between two dispensings to consider them part of the same episode.
- Washout Period** - The period before an exposure episode during which an individual cannot have evidence of incidence-defining criteria.

Appendix C. List of Healthcare Common Procedure Coding System (HCPCS) Procedure Codes, Current Procedural Terminology (CPT) Procedure Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Index Exposures in this Request

Code	Code Category	Code Type	Description
Adalimumab			
J0135	Procedure	HCPCS	Adalimumab
Etanercept			
J1438	Procedure	HCPCS	Etanercept
Tocilizumab			
C9264	Procedure	CPT-4	Tocilizumab
J3262	Procedure	CPT-4	Tocilizumab
Polyarticular Juvenile Idiopathic Arthritis			
M0800	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis of unspecified site
M08011	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right shoulder
M08012	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left shoulder
M08019	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified shoulder
M08021	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right elbow
M08022	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left elbow
M08029	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified elbow
M08031	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right wrist
M08032	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left wrist
M08039	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified wrist
M08041	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right hand
M08042	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left hand
M08049	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified hand
M08051	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right hip
M08052	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left hip
M08059	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified hip
M08061	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right knee
M08062	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left knee
M08069	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified knee
M08071	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right ankle and foot
M08072	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left ankle and foot
M08079	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified ankle and foot
M0808	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, vertebrae
M0809	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, multiple sites
M081	Diagnosis	ICD-10-CM	Juvenile ankylosing spondylitis
M083	Diagnosis	ICD-10-CM	Juvenile rheumatoid polyarthritis (seronegative)
M0840	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified site
M08411	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right shoulder
M08412	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left shoulder
M08419	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified shoulder
M08421	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right elbow
M08422	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left elbow
M08429	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified elbow

Appendix C. List of Healthcare Common Procedure Coding System (HCPCS) Procedure Codes, Current Procedural Terminology (CPT) Procedure Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Index Exposures in this Request

Code	Code Category	Code Type	Description
M08431	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right wrist
M08432	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left wrist
M08439	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified wrist
M08441	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right hand
M08442	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left hand
M08449	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified hand
M08451	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right hip
M08452	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left hip
M08459	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified hip
M08461	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right knee
M08462	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left knee
M08469	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified knee
M08471	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right ankle and foot
M08472	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left ankle and foot
M08479	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified ankle and foot
M0880	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified site
M08811	Diagnosis	ICD-10-CM	Other juvenile arthritis, right shoulder
M08812	Diagnosis	ICD-10-CM	Other juvenile arthritis, left shoulder
M08819	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified shoulder
M08821	Diagnosis	ICD-10-CM	Other juvenile arthritis, right elbow
M08822	Diagnosis	ICD-10-CM	Other juvenile arthritis, left elbow
M08829	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified elbow
M08831	Diagnosis	ICD-10-CM	Other juvenile arthritis, right wrist
M08832	Diagnosis	ICD-10-CM	Other juvenile arthritis, left wrist
M08839	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified wrist
M08841	Diagnosis	ICD-10-CM	Other juvenile arthritis, right hand
M08842	Diagnosis	ICD-10-CM	Other juvenile arthritis, left hand
M08849	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified hand
M08851	Diagnosis	ICD-10-CM	Other juvenile arthritis, right hip
M08852	Diagnosis	ICD-10-CM	Other juvenile arthritis, left hip
M08859	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified hip
M08861	Diagnosis	ICD-10-CM	Other juvenile arthritis, right knee
M08862	Diagnosis	ICD-10-CM	Other juvenile arthritis, left knee
M08869	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified knee
M08871	Diagnosis	ICD-10-CM	Other juvenile arthritis, right ankle and foot
M08872	Diagnosis	ICD-10-CM	Other juvenile arthritis, left ankle and foot
M08879	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified ankle and foot
M0888	Diagnosis	ICD-10-CM	Other juvenile arthritis, other specified site
M0889	Diagnosis	ICD-10-CM	Other juvenile arthritis, multiple sites
M0890	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified site
M08911	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right shoulder

Appendix C. List of Healthcare Common Procedure Coding System (HCPCS) Procedure Codes, Current Procedural Terminology (CPT) Procedure Codes, and International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) Diagnosis Codes Used to Define Index Exposures in this Request

Code	Code Category	Code Type	Description
M08912	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left shoulder
M08919	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified shoulder
M08921	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right elbow
M08922	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left elbow
M08929	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified elbow
M08931	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right wrist
M08932	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left wrist
M08939	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified wrist
M08941	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right hand
M08942	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left hand
M08949	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified hand
M08951	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right hip
M08952	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left hip
M08959	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified hip
M08961	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right knee
M08962	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left knee
M08969	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified knee
M08971	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right ankle and foot
M08972	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left ankle and foot
M08979	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified ankle and foot
M0898	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, vertebrae
M0899	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, multiple sites

Appendix D. List of Generic Names of Medical Products Used to Define Index Exposures in this Request

Generic Name

Adalimumab

Etanercept

Abatacept

Tocilizumab

**Appendix E. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)
Diagnosis Codes Used to Define Inclusion Criteria in this Request**

Code	Code Category	Code Type	Description
Polyarticular Juvenile Idiopathic Arthritis			
M0800	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis of unspecified site
M08011	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right shoulder
M08012	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left shoulder
M08019	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified shoulder
M08021	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right elbow
M08022	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left elbow
M08029	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified elbow
M08031	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right wrist
M08032	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left wrist
M08039	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified wrist
M08041	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right hand
M08042	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left hand
M08049	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified hand
M08051	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right hip
M08052	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left hip
M08059	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified hip
M08061	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right knee
M08062	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left knee
M08069	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified knee
M08071	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, right ankle and foot
M08072	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, left ankle and foot
M08079	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, unspecified ankle and foot
M0808	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, vertebrae
M0809	Diagnosis	ICD-10-CM	Unspecified juvenile rheumatoid arthritis, multiple sites
M081	Diagnosis	ICD-10-CM	Juvenile ankylosing spondylitis
M083	Diagnosis	ICD-10-CM	Juvenile rheumatoid polyarthritis (seronegative)
M0840	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified site
M08411	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right shoulder
M08412	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left shoulder
M08419	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified shoulder
M08421	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right elbow
M08422	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left elbow
M08429	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified elbow
M08431	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right wrist
M08432	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left wrist
M08439	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified wrist
M08441	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right hand
M08442	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left hand
M08449	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified hand
M08451	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right hip
M08452	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left hip

**Appendix E. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)
Diagnosis Codes Used to Define Inclusion Criteria in this Request**

Code	Code Category	Code Type	Description
M08459	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified hip
M08461	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right knee
M08462	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left knee
M08469	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified knee
M08471	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, right ankle and foot
M08472	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, left ankle and foot
M08479	Diagnosis	ICD-10-CM	Pauciarticular juvenile rheumatoid arthritis, unspecified ankle and foot
M0880	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified site
M08811	Diagnosis	ICD-10-CM	Other juvenile arthritis, right shoulder
M08812	Diagnosis	ICD-10-CM	Other juvenile arthritis, left shoulder
M08819	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified shoulder
M08821	Diagnosis	ICD-10-CM	Other juvenile arthritis, right elbow
M08822	Diagnosis	ICD-10-CM	Other juvenile arthritis, left elbow
M08829	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified elbow
M08831	Diagnosis	ICD-10-CM	Other juvenile arthritis, right wrist
M08832	Diagnosis	ICD-10-CM	Other juvenile arthritis, left wrist
M08839	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified wrist
M08841	Diagnosis	ICD-10-CM	Other juvenile arthritis, right hand
M08842	Diagnosis	ICD-10-CM	Other juvenile arthritis, left hand
M08849	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified hand
M08851	Diagnosis	ICD-10-CM	Other juvenile arthritis, right hip
M08852	Diagnosis	ICD-10-CM	Other juvenile arthritis, left hip
M08859	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified hip
M08861	Diagnosis	ICD-10-CM	Other juvenile arthritis, right knee
M08862	Diagnosis	ICD-10-CM	Other juvenile arthritis, left knee
M08869	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified knee
M08871	Diagnosis	ICD-10-CM	Other juvenile arthritis, right ankle and foot
M08872	Diagnosis	ICD-10-CM	Other juvenile arthritis, left ankle and foot
M08879	Diagnosis	ICD-10-CM	Other juvenile arthritis, unspecified ankle and foot
M0888	Diagnosis	ICD-10-CM	Other juvenile arthritis, other specified site
M0889	Diagnosis	ICD-10-CM	Other juvenile arthritis, multiple sites
M0890	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified site
M08911	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right shoulder
M08912	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left shoulder
M08919	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified shoulder
M08921	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right elbow
M08922	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left elbow
M08929	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified elbow
M08931	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right wrist
M08932	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left wrist
M08939	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified wrist
M08941	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right hand

**Appendix E. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)
Diagnosis Codes Used to Define Inclusion Criteria in this Request**

Code	Code Category	Code Type	Description
M08942	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left hand
M08949	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified hand
M08951	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right hip
M08952	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left hip
M08959	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified hip
M08961	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right knee
M08962	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left knee
M08969	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified knee
M08971	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, right ankle and foot
M08972	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, left ankle and foot
M08979	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, unspecified ankle and foot
M0898	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, vertebrae
M0899	Diagnosis	ICD-10-CM	Juvenile arthritis, unspecified, multiple sites
