

ONLINE SUPPLEMENTARY DATA

Supplementary Data 1. Validation protocol.

The validation protocol consisted of the following tasks:

- a) Identify whether the individual has a hospital case file for one or more of the three relevant hospitals. If no: note as “missing information”.
- b) If yes: Identify whether the individual has ever been to the outpatient or inpatient Rheumatology clinic at one or more of the hospitals.

If yes: read the relevant notes, go over the criteria, check lab results, X-ray/MRI/CT results, note the rheumatologist’s diagnosis. Follow the notes from the first incident of a relevant diagnosis to the end of the file. Note if too little information or uncertain diagnosis.

- c) If no: identify whether the individual has ever been to the outpatient or inpatient Orthopedics clinic, Multidisciplinary pain clinic, Dermatology clinic, Gastroenterology clinic, or Internal medicine clinic. Scan for relevant diagnostic codes, and inspect notes from any visits that may be relevant. Note any alternative diagnosis that could explain the individual’s RA or AS answer in HUNT, check criteria, lab results, X-ray/MRI/CT results. Follow the notes from the first incident of a relevant diagnosis to the end of the file.
- d) If uncertain diagnosis: add to list for colleague to check case file. Later: Agree on final conclusion.

The information was entered into a spreadsheet. The protocol had an appendix briefly stating the criteria for the relevant rheumatological diagnoses (RA, AS, nrAxSpA, PsA, IBD-associated arthritis, reactive arthritis, osteoarthritis, fibromyalgia, and gout).

Supplementary Table 1. Validated diagnoses of other arthritis in persons with self-reported rheumatoid arthritis (RA) or ankylosing spondylitis (AS)¹.

Self-reported diagnosis	Validated diagnosis	N (%)
RA (n=786)	Osteoarthritis	256 (32.6%)
	Psoriasis arthritis	233 (29.6 %)
	Miscellaneous	207 (26.3 %)
	Juvenile idiopathic arthritis	30 (3.8%)
	Gout	30 (3.8 %)
	Reactive arthritis	17 (2.2 %)
	Colitis-associated arthritis	13 (1.7 %)
AS (n=105)	Osteoarthritis	36 (34.3 %)
	Psoriasis arthritis	22 (21.0 %)
	Miscellaneous	31 (29.5 %)
	Gout	7 (6.7 %)
	Reactive arthritis	6 (5.7 %)
	Colitis-associated arthritis	3 (2.9 %)
RA and AS (n=44)	Psoriasis arthritis	16 (36.4 %)
	Osteoarthritis	10 (22.7 %)
	Miscellaneous	9 (20.5 %)
	Colitis-associated arthritis	3 (6.8 %)
	Juvenile idiopathic arthritis	2 (4.5 %)
	Gout	2 (4.5 %)
	Reactive arthritis	2 (4.5 %)

¹Percentages may not sum to 100% due to rounding

Supplementary Table 2. Age¹- and gender-specific prevalences of rheumatoid arthritis (RA) and ankylosing spondylitis (AS).

Diagnosis	n	Prevalence in HUNT2 ²	n	Prevalence in HUNT3 ²
RA, overall				
< 50 years	68	210 (163-267)	32	159 (109-224)
50-64 years	99	733 (596-892)	135	851 (714-1006)
> 64 years	125	1065 (887-1268)	198	1862 (1614-2138)
RA, women				
< 50 years	52	305 (228-400)	27	237 (156-344)
50-64 years	70	1046 (817-1320)	93	1131 (914-1384)
> 64 years	85	1394 (1115-1721)	118	2150 (1783-2569)
RA, men				
< 50 years	16	105 (60-170)	5	57 (19-134)
50-64 years	29	425 (285-610)	42	549 (396-741)
> 64 years	40	710 (507-965)	80	1555 (1235-1932)
AS, overall				
< 40 years	22	112 (70-169)	22	208 (131-315)
>= 40 years	47	124 (91-165)	127	352 (294-419)
AS, women				
< 40 years	7	66 (27-136)	14	227 (124-380)
>= 40 years	11	57 (29-102)	45	238 (173-318)
AS, men				
< 40 years	15	165 (92-272)	8	183 (79-360)
>= 40 years	36	193 (136-268)	82	479 (381-594)

¹ Division into more age categories was not performed to avoid too small numbers and wide confidence intervals

² Prevalences are given per 100,000 individuals, with 95 % confidence intervals in parenthesis