

**Table S1.** List of codes used to exclude co-existent autoimmune diseases from the study

ICD-10 code	RID code	Diagnosis
D86	V111	Sarcoidosis
D89.1	V294	Cryoglobulinaemia
M05	V223	Seropositive rheumatoid arthritis
M06.1	V298	Adult-onset Still's disease
M08	V133	Juvenile arthritis
M30.0	V134	Polyarteritis nodosa
M30.1	V134	Polyarteritis with lung involvement [Churg- Strauss]
M30.2	V134	Juvenile polyarteritis
M31.0	V135	Goodpasture's syndrome
M31.0	V290	Hypersensitivity angiitis
M31.1	V135	Thrombotic microangiopathy
M31.3	V135	Wegener granulomatosis
M31.4	V135	Aortic arch syndrome [Takayasu]
M31.7	V238	Microscopic polyangiitis
M32.1	V136	Systemic lupus erythematosus with organ or system involvement
M33	V137	Dermatopolymyositis
M34	V138	Systemic sclerosis
M35.0	V139	Sicca syndrome [Sjogren]
M35.1	V139	Mixed connective tissue disease
M35.2	V139	Behcet's disease
M35.3	V139	Polymyalgia rheumatica
M35.4	V139	Diffuse(eosinophilic) fasciitis
M35.5	V139	Multifocal fibrosclerosis
M35.6	V139	Relapsing panniculitis [Weber-Christian]
M45	V140	Ankylosing spondylitis
M94.1	V178	Relapsing polychondritis
Any	V900	Extremely rare diseases including IgG4-related diseases and SAPHO syndrome

ICD-10, International Classification of Diseases 10th edition; RID, rare and intractable diseases.

**Figure S1.** Log minus log plot for proportional hazard assumption.

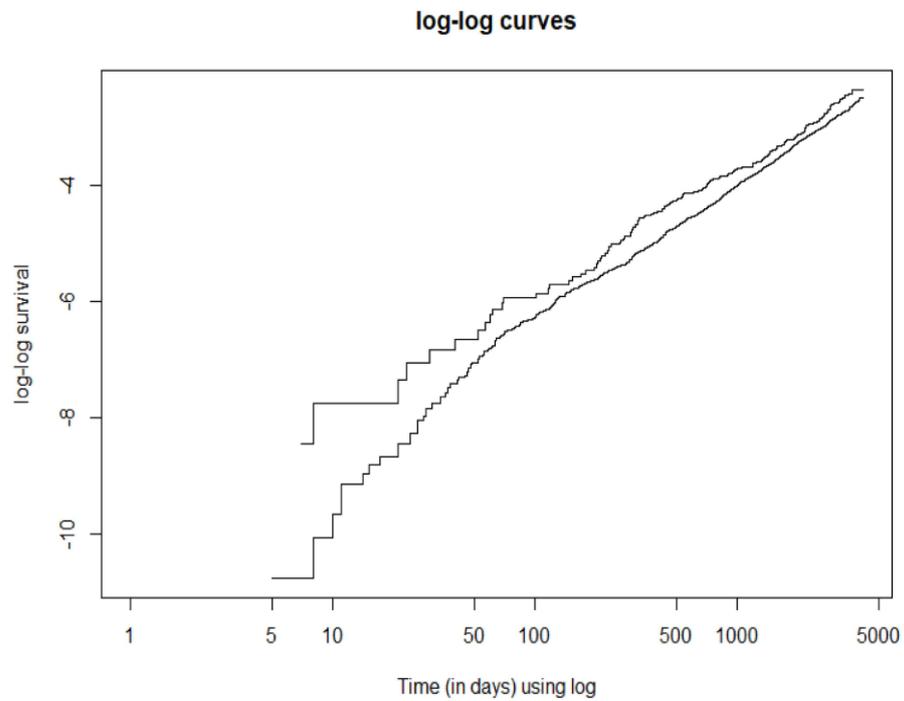


Table S2. Subgroup analysis according to age and sex

		n	No. of cancers	HR (95% CI)	aHR (95% CI)*	<i>p</i> for interaction
<b>NMSC</b>						
Age						0.228
≤65 y	PsA	3,944	5	6.21 (2.03–18.98)	5.63 (1.81–17.51)	
	Control	39,440	8			
>65 y	PsA	744	3	2.18 (0.63–7.57)	2.27 (0.65–7.93)	
	Control	7,440	14			
Sex						0.828
Men	PsA	2,678	4	3.97 (1.25–12.66)	3.62 (1.12–11.68)	
	Control	26,780	10			
Women	PsA	2,010	4	3.35 (1.08–10.39)	3.53 (1.13–11.00)	
	Control	20,100	12			
<b>Lymphoma</b>						
Age						0.084
≤65 y	PsA	3,944	3	1.30 (0.39–4.32)	1.27 (0.38–4.26)	
	Control	39,440	23			
>65 y	PsA	744	7	4.75 (1.94–11.66)	4.85 (1.97–11.97)	
	Control	7,440	15			
Sex						0.310
Men	PsA	2,678	4	1.80 (0.62–5.22)	1.69 (0.58–4.95)	
	Control	26,780	22			
Women	PsA	2,010	6	3.76 (1.47–9.60)	4.04 (1.57–10.38)	
	Control	20,100	16			
<b>Thyroid ca</b>						
Age						0.457
≤65 y	PsA	3,944	23	1.99 (1.27–3.12)	1.91 (1.21–3.00)	
	Control	39,440	115			
>65 y	PsA	744	1	0.92 (0.12–7.12)	0.90 (0.12–7.06)	
	Control	7,440	11			
Sex						0.167
Men	PsA	2,678	9	2.99 (1.42–6.30)	2.79 (1.31–5.93)	
	Control	26,780	30			
Women	PsA	2,010	15	1.57 (0.91–2.70)	1.52 (0.88–2.64)	
	Control	20,100	96			

\*Adjusted for age, sex, diabetes, and hypertension.

n, number of patients; No., number; HR, hazard ratio; CI, confidence interval; aHR, adjusted hazard ratio; NMSC, non-melanoma skin cancer; PsA, psoriatic arthritis; ca, cancer