

ONLINE SUPPLEMENTARY DATA

Supplementary Table 1. International Classification of Disease (ICD) codes used to identify the diseases of interest, and used to exclude those diseases in the general population cohort

Cohort	ICD-9/ICD-10 diagnosis codes
<i>Inflammatory bowel disease</i>	555/K50, 556/K51
<i>Multiple sclerosis</i>	340/G35
<i>Rheumatoid arthritis</i>	714/ M05, M06
<i>General population cohort</i>	
Crohn's disease	555/K50
Ulcerative colitis	556/K51
Optic neuritis	377.3/H46
Acute transverse myelitis	323.82/G37
Acute disseminated encephalomyelitis	323/G36.9
Demyelinating disease of CNS unspecified	341.9/G37.8
Other acute disseminated demyelination	G36
MS	340/G35
Neuromyelitis optica	341.0/G36.0
Systemic lupus erythematosus	710.0/M32
Psoriatic arthritis	696.0/M07
Inflammatory spondyloarthropathies	720/M45-M49
Connective tissue disease	710/ M30-M36
Inflammatory polyarthropathies	M02, M03, M07, M081, M082, M083, M084, M088, M089

Supplementary Table 2. Classification of immunomodulatory and immunosuppressive therapies in rheumatoid arthritis, with Anatomic Therapeutic Chemical Classification System (ATC) codes

Treatment	Disease	Rheumatoid Arthritis
Corticosteroids		Methylprednisolone (H02AB04) Prednisolone (H02AB06) Prednisone (H02AB07) Triamcinolone (H02AB08) Cortisone (H02AB10)
Immunomodulatory therapies		Sulfasalazine (A07EC01) sodium aurothiomalate (M01CB01) auranofin (M01CB03) aurothioglucose (M01CB04) Penicillamine (M01CC01) Hydroxychloroquine (P01BA02)
Traditional immunosuppressive therapies¹		Cyclophosphamide (L01AA01) methotrexate (L01BA01, L04AX03) Cyclosporine (L04AA01) Leflunomide (L04AA13) Azathioprine (L04AX01)
Novel immunosuppressive therapies/ Biologics¹		Infliximab (L04AA12) Adalimumab (L04AA17) Etanercept (L04AA11) Anakinra (L04AA14) Rituximab ³ (L01XC02) Abatacept ³ (L04AA24)

¹ Analyzed together due to sample size limitations.

Supplementary Table 3. Odds ratios and 95% confidence intervals (CI) for the association of rheumatoid arthritis (RA) with intensive care unit admission for infection^a

Variable	Odds Ratio (95% CI)
<i>Model 1</i>	
RA vs. general population	1.74 (1.30, 2.31)
<i>Model 2</i>	
RA vs. general population	1.22 (0.87, 1.70)
Any corticosteroid, immunomodulatory or immunosuppressive therapy	1.75 (1.35, 2.25)
<i>Model 3</i>	
RA vs. general population	1.32 (0.90, 1.95)
Corticosteroids	1.97 (1.53, 2.52)
Immunomodulatory therapy	0.90 (0.50, 1.61)
Immunosuppressive therapy	1.16 (0.72, 1.88)

^a Adjusted for sex, age, region of residence (urban vs. rural), socioeconomic status (in quintiles), Modified Charlson Index, disease duration, year of ICU admission