

Supplementary Table 1. ICD-9 Clinical Modification (CM) Codes used for disease identification

Diseases	ICD-9 CM Codes
Rheumatoid arthritis	714
Reactive arthritis <sup>1</sup>	099.3,711.1,711.3,716.4,716.5,716.6,716.9,719.4
Systemic lupus erythematosus	710.0
Spondyloarthritis	720.0
Psoriasis	696
Multiple sclerosis	340
Inflammatory Bowel Disease	555; 556
Neoplasm	140-149, 150-159, 160-165, 170-172, 174-176, 179-189, 190-195, 200-209

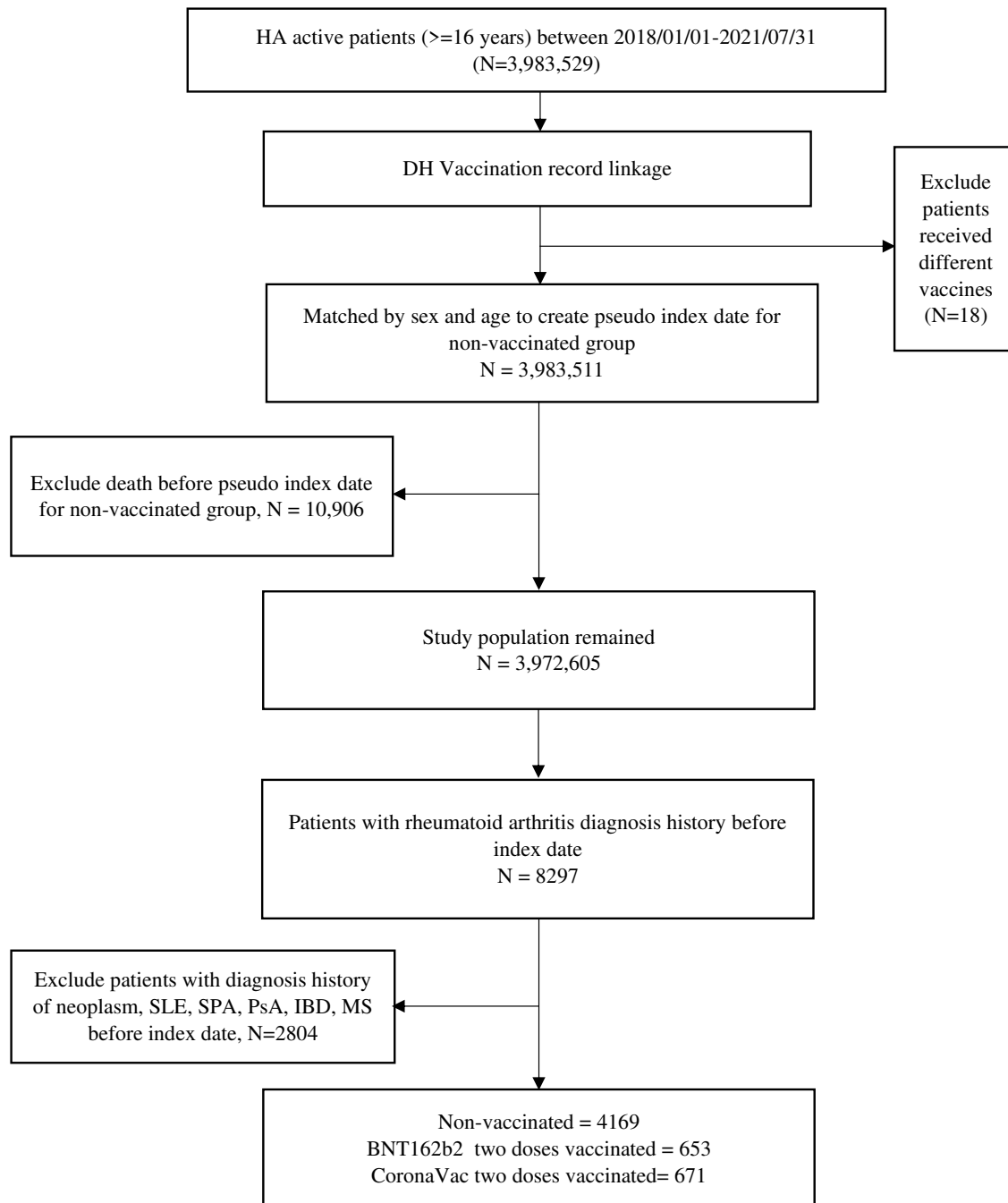
<sup>1</sup> Curry JA, Riddle MS, Gormley RP, Tribble DR, Porter CK. The epidemiology of infectious gastroenteritis related reactive arthritis in U.S. military personnel: a case-control study. *BMC Infectious Diseases* 2010; 10(1): 266.

Supplementary Table 2. BNF codes used for medication

	BNF code	Notes
Immunosuppressant	8.2	
NSAIDs	10.1.1	
Corticosteroids	10.1.2	
b/tsDMARDs	10.1.3	Drug item codes in HK EMR: ABAT01/03, ABT-03, ADAL05/08/10/13/15/16, ANAK01, BARI15-18, BELI01/02/05, CERT01/02, ETAN01/04-06/08-10, FILG07/08/10, GOLI02/04-06, INFL03/04/31/33, IXEK01/02, LEFL01-03, S01257, S01311, S01315, SARI03-06, SECU02/03, TOCI01/03-09, TOFA01-05
csDMARDs	10.1.3	Drug item codes in HK EMR: HYDR21; METH10, METH1D, METH1E, METH1G, METH1L; PENI04,PENI06,PENI07; SULP23
Drugs for gout	10.1.4	

**Abbreviation:** BNF: British National Formulary; NSAIDs: Non-steroidal anti-inflammatory drugs; b/tsDMARDs: biological/target synthetic disease-modifying antirheumatic drugs; csDMARDs: conventional synthetic disease-modifying antirheumatic drugs; HK EMR: Hong Kong electronic medical records

Supplementary Figure 1. Flow chart of record linkage, matching and cohort identification



**Abbreviation:** HA: Hospital Authority of Hong Kong; DH: Department of Health of Hong Kong government; SLE: systemic lupus erythematosus; SPA: spondyloarthritis; PsA: psoriasis; IBD: inflammatory bowel disease; MS: multiple sclerosis.

Supplementary Figure 2. Number of patients with rheumatoid arthritis who took at least one dose Covid-19 vaccines between February and July 2021 in Hong Kong

