

Supplementary material

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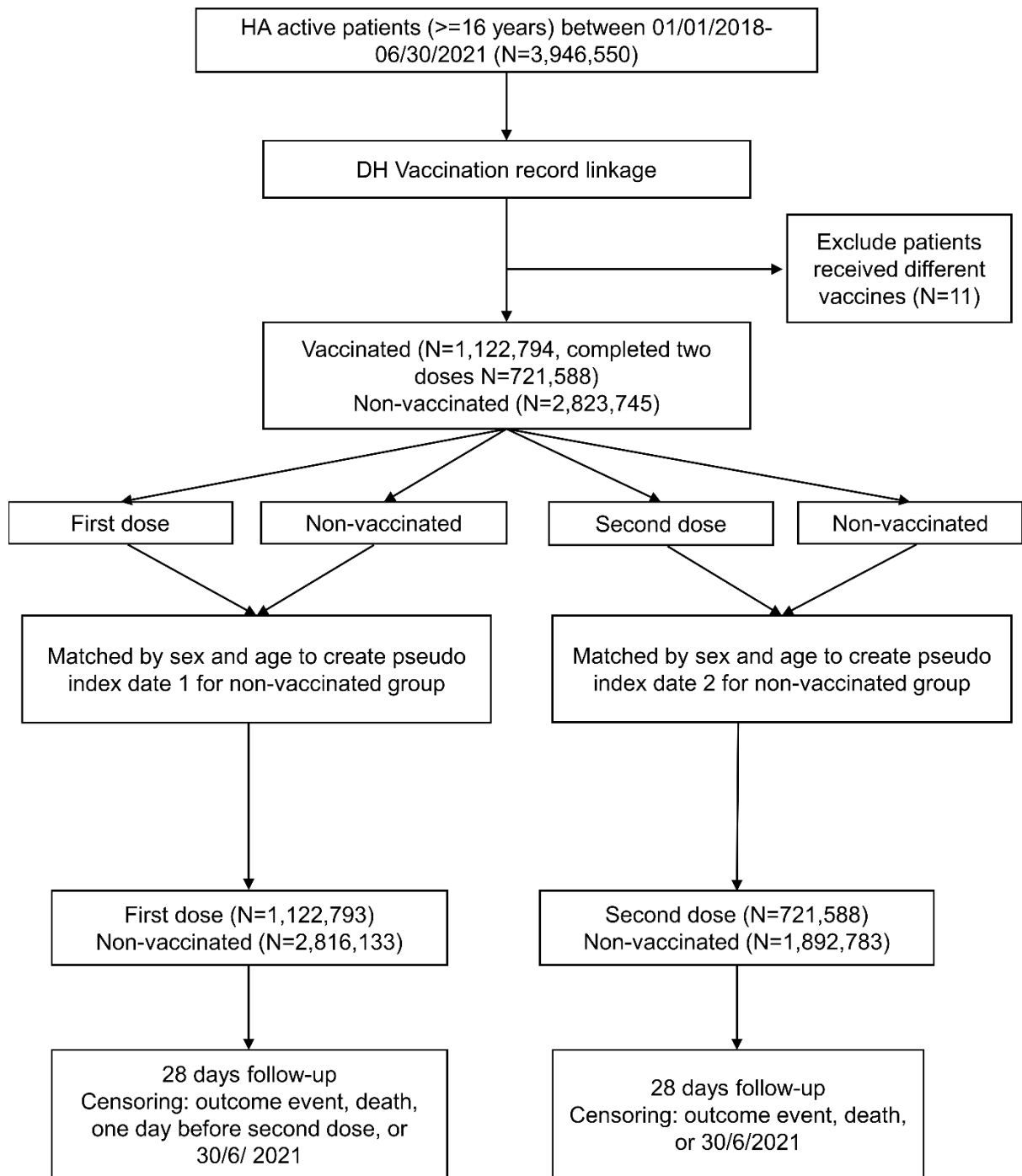
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Supplementary Table 3 Standardized incidence rates of autoimmune conditions among second dose vaccine recipients and non-vaccinated individuals by sex groups



Supplementary Figure 1 Study design and patient identification flow for main analysis

Abbreviations: HA, Hospital Authority; DH: Department of Health.

Body system	Disease	Groups	Observed cases	Expected cases	Observed person-years	Age-standardized IRs (per 100,000 person-years)	Median-time to event (days)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	n<5	2	175413.99	1.14	8	
		BNT162b2	0	0	29871.41	0.00	-	
		CoronaVac	0	0	33987.06	0.00	-	
	Single organ cutaneous vasculitis	None	n<5	2	175410.58	1.14	4.5	
		BNT162b2	n<5	1	29871.20	2.20	3	
		CoronaVac	0	0	33986.99	0.00	-	
Endocrine system	Subacute thyroiditis	None	n<5	2	175413.11	1.14	13	
		BNT162b2	0	0	29871.27	0.00	-	
		CoronaVac	0	0	33986.64	0.00	-	
Hematological system	Anti-phospholipid antibody syndrome	None	6	6	175396.41	3.42	15	
		BNT162b2	n<5	2	29870.48	6.20	18	
		CoronaVac	n<5	3	33985.15	9.55	9	
	Thrombocytopenia	None	24	24	175314.24	13.69	11	
		BNT162b2	n<5	2	29866.50	6.19	4	
		CoronaVac	n<5	1	33981.93	1.64	27	
Multisystem	Sjogren's syndrome	None	n<5	4	175399.64	2.28	9	
		BNT162b2	n<5	1	29870.66	2.91	7	
		CoronaVac	n<5	1	33985.61	2.39	23	
	Systemic lupus erythematosus	None	34	34	175340.07	19.39	10.5	
		BNT162b2	n<5	1	29868.18	3.89	6	
		CoronaVac	n<5	1	33985.27	4.06	24.5	
Musculoskeletal system	Acute aseptic arthritis	None	96	96	175209.11	54.85	15.5	
		BNT162b2	n<5	4	29862.35	14.31	11.5	
		CoronaVac	12	15	33975.38	44.89	9.5	
	Reactive arthritis	None	355	355	175024.34	203.11	13	
		BNT162b2	28	29	29840.54	95.83	11	
		CoronaVac	35	43	33950.28	126.99	10	
	Rheumatoid arthritis	None	58	58	175248.73	33.10	15.5	
		BNT162b2	n<5	3	29861.28	9.59	16.5	
		CoronaVac	n<5	3	33972.29	9.38	9.5	
	Psoriatic arthritis	None	13	13	175348.18	7.41	12	
		BNT162b2	n<5	2	29863.88	5.22	19.5	
		CoronaVac	n<5	3	33981.32	10.08	26.5	
Spondyloarthritis	None	12	12	175358.32	6.84	18		
	BNT162b2	n<5	1	29865.43	2.44	17		
	CoronaVac	n<5	1	33981.68	3.59	4		
Nervous system	Acute disseminated encephalomyelitis	None	0	0	175412.05	0.00	-	
		BNT162b2	0	0	29871.37	0.00	-	
		CoronaVac	0	0	33986.99	0.00	-	
	Guillain-Barré syndrome	None	n<5	3	175409.05	1.71	14	
		BNT162b2	n<5	1	29871.36	2.91	15	
		CoronaVac	0	0	33986.81	0.00	-	
Narcolepsy and related disorders	None	239	239	174998.27	136.62	14		
	BNT162b2	52	60	29797.21	201.37	13		
	CoronaVac	34	26	33908.73	75.89	18.5		
Transverse myelitis	None	0	0	175411.17	0.00	-		
	BNT162b2	0	0	29871.37	0.00	-		
	CoronaVac	0	0	33986.99	0.00	-		
Death	Death	None	3084	3084	175414.88	1758.12	13	
		BNT162b2	15	30	29871.51	99.64	12	
		CoronaVac	28	38	33987.06	112.08	13.5	

Supplementary Figure 2 Standardized incidence rates of autoimmune conditions among first dose vaccine recipients and non-vaccinated individuals after removal of previous SARS-CoV-2 infection

Note: The line for CIs without a cap means the upper CI is greater than 5. Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.

Body system	Disease	Groups	Observed cases	Expected cases	Observed person-years	Age-standardized IRs (per 100,000 person-years)	Median-time to event (days)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	0	0	121474.81	0.00	-	
		BNT162b2	n<5	1	24434.65	3.40	4	
		CoronaVac	0	0	21942.71	0.00	-	
	Single organ cutaneous vasculitis	None	n<5	4	121472.32	3.29	16	
		BNT162b2	0	0	24434.63	0.00	-	
Endocrine system	Subacute thyroiditis	None	0	0	121474.11	0.00	-	
		BNT162b2	0	0	24434.55	0.00	-	
		CoronaVac	0	0	21942.33	0.00	-	
Hematological system	Anti-phospholipid antibody syndrome	None	7	7	121461.66	5.76	20	
		BNT162b2	0	0	24434.00	0.00	-	
	CoronaVac	0	0	21941.40	0.00	-		
	Thrombocytopenia	None	17	17	121403.37	14.00	12	
BNT162b2		n<5	6	24430.54	23.64	21.5		
Multisystem	Sjogren's syndrome	None	n<5	3	121465.01	2.47	17	
		BNT162b2	0	0	24433.94	0.00	-	
		CoronaVac	0	0	21941.91	0.00	-	
	Systemic lupus erythematosus	None	23	23	121424.18	18.94	15	
		BNT162b2	n<5	1	24432.29	2.62	4	
Musculoskeletal system	Acute aseptic arthritis	None	75	75	121313.13	61.91	14	
		BNT162b2	8	11	24427.04	43.35	16.5	
		CoronaVac	14	13	21934.23	59.14	20.5	
	Reactive arthritis	None	255	255	121174.12	210.82	14	
		BNT162b2	24	47	24407.96	193.38	18	
		CoronaVac	33	51	21917.09	233.37	11	
	Rheumatoid arthritis	None	38	38	121358.41	31.32	12	
		BNT162b2	n<5	1	24427.68	4.24	10	
Nervous system	Guillain-Barré syndrome	None	9	9	121427.01	7.41	12	
		BNT162b2	n<5	1	24428.55	3.26	28	
		CoronaVac	n<5	4	21939.32	19.56	13	
Death	Death	None	2386	2386	121475.24	1964.19	14	
		BNT162b2	16	48	24434.72	196.27	19.5	
		CoronaVac	18	19	21942.71	87.24	16	

Supplementary Figure 3 Standardized incidence rates of autoimmune conditions among second dose vaccine recipients and non-vaccinated individuals after removal of previous SARS-CoV-2 infection

Note: The line for CIs without a cap means the upper CI is greater than 5. Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.

Body system	Disease	Groups	Observed cases	Expected cases	Observed person-years	Age-standardized IRs (per 100,000 person-years)	Median-time to event (days)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	0	0	268203.73	0.00	-	
		BNT162b2	n<5	1	45699.19	1.58	4	
		CoronaVac	0	0	51388.30	0.00	-	
	Single organ cutaneous vasculitis	None	9	9	268197.73	3.36	50	
Endocrine system	Subacute thyroiditis	BNT162b2	0	0	45699.05	0.00	-	
		CoronaVac	0	0	51388.09	0.00	-	
		None	n<5	1	268202.05	0.37	62	
	Hematological system	Anti-phospholipid antibody syndrome	BNT162b2	0	0	45699.08	0.00	-
CoronaVac			0	0	51387.50	0.00	-	
None			24	24	268173.39	8.95	40.5	
Thrombocytopenia		BNT162b2	n<5	2	45698.17	4.61	53	
	CoronaVac	0	0	51385.29	0.00	-		
	None	44	44	268036.17	16.42	34		
	BNT162b2	5	6	45690.87	12.87	24		
Multisystem	Sjogren's syndrome	CoronaVac	n<5	5	51379.40	10.17	56	
		None	6	6	268181.48	2.24	36.5	
		BNT162b2	n<5	2	45697.82	3.35	79	
	Systemic lupus erythematosus	CoronaVac	n<5	3	51386.45	5.51	48	
None		40	40	268100.48	14.92	22.5		
BNT162b2		n<5	1	45695.07	1.22	4		
CoronaVac		0	0	51385.90	0.00	-		
Musculoskeletal system	Acute aseptic arthritis	None	181	181	267789.05	67.67	36	
		BNT162b2	13	15	45683.96	33.69	25	
		CoronaVac	20	25	51365.49	48.04	23	
	Reactive arthritis	None	629	630	267439.98	235.62	35	
		BNT162b2	53	97	45645.17	211.85	33	
		CoronaVac	68	117	51321.90	227.58	29.5	
	Rheumatoid arthritis	None	73	73	267934.85	27.25	26	
		BNT162b2	n<5	8	45686.55	17.96	29	
		CoronaVac	7	5	51367.61	10.36	30	
	Psoriatic arthritis	None	21	21	268095.57	7.83	31	
		BNT162b2	n<5	1	45688.43	1.59	28	
		CoronaVac	5	6	51379.62	11.00	22	
	Spondyloarthritis	None	19	19	268113.59	7.09	44	
		BNT162b2	0	0	45690.11	0.00	-	
		CoronaVac	n<5	3	51379.95	6.50	42	
	Nervous system	Acute disseminated encephalomyelitis	None	n<5	2	268200.67	0.75	15
BNT162b2			n<5	1	45699.07	1.76	27	
CoronaVac			n<5	1	51387.96	1.72	42	
Guillain-Barré syndrome		None	6	6	268193.60	2.24	20	
		BNT162b2	0	0	45698.89	0.00	-	
		CoronaVac	0	0	51388.03	0.00	-	
Narcolepsy and related disorders		None	363	363	267507.06	135.74	33	
		BNT162b2	78	75	45572.12	165.24	32.5	
	CoronaVac	85	68	51245.80	132.02	33		
Transverse myelitis	None	n<5	2	268199.52	0.75	15		
	BNT162b2	n<5	1	45699.07	1.76	27		
Death	Death	CoronaVac	n<5	1	51387.96	1.72	42	
		None	5997	5997	268204.30	2235.98	37	
		BNT162b2	32	81	45699.29	176.45	30	
		CoronaVac	67	129	51388.30	251.44	52	

Supplementary Figure 4 Standardized incidence rates up to the end date of data availability among second dose vaccine recipients and non-vaccinated individuals

Note: The line for CIs without a cap means the upper CI is greater than 5. Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.

Body system	Disease	Groups	Observed cases	Expected cases	Observed person-years	Age-standardized IRs (per 100,000 person-years)	Median-time to event (days)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	n<5	3	175834.17	1.71	5	
		BNT162b2	0	0	30016.54	0.00	-	
		CoronaVac	0	0	34041.10	0.00	-	
	Single organ cutaneous vasculitis	None	n<5	2	175830.83	1.14	4.5	
Endocrine system	Subacute thyroiditis	BNT162b2	n<5	1	30016.32	2.19	3	
		CoronaVac	0	0	34041.02	0.00	-	
		None	n<5	3	175833.32	1.71	14	
Hematological system	Anti-phospholipid antibody syndrome	BNT162b2	0	0	30016.39	0.00	-	
		CoronaVac	0	0	34040.67	0.00	-	
		None	13	13	175816.39	7.39	16	
Multisystem	Sjogren's syndrome	BNT162b2	n<5	2	30015.53	6.18	18	
		CoronaVac	n<5	3	34039.18	9.53	9	
		None	97	97	175731.29	55.21	12	
Musculoskeletal system	Thrombocytopenia	BNT162b2	6	7	30011.27	22.44	7	
		CoronaVac	n<5	3	34035.69	7.65	4	
		None	10	10	175819.71	5.69	9	
Nervous system	Systemic lupus erythematosus	BNT162b2	n<5	1	30015.78	2.90	7	
		CoronaVac	n<5	2	34039.56	5.95	14	
		None	56	56	175759.42	31.86	13	
Death	Death	BNT162b2	n<5	1	30013.24	3.87	6	
		CoronaVac	n<5	1	34039.30	4.05	24.5	
		None	196	196	175624.56	111.77	14	
Acute aseptic arthritis	Reactive arthritis	BNT162b2	7	7	30007.28	23.88	18	
		CoronaVac	16	19	34029.29	54.62	9.5	
		None	474	475	175439.14	270.59	13	
Rheumatoid arthritis	Psoriatic arthritis	BNT162b2	40	42	29985.29	138.46	11	
		CoronaVac	46	54	34003.81	157.83	12	
		None	92	92	175667.19	52.38	14	
Spondyloarthritis	Transverse myelitis	BNT162b2	n<5	5	30006.28	17.21	15	
		CoronaVac	7	6	34026.20	19.02	9	
		None	31	31	175767.74	17.64	14	
Acute disseminated encephalomyelitis	Gullain-Barré syndrome	BNT162b2	n<5	2	30008.94	5.20	19.5	
		CoronaVac	n<5	5	34035.28	14.47	21	
		None	27	27	175777.89	15.36	17	
Narcolepsy and related disorders	Transverse myelitis	BNT162b2	n<5	1	30010.55	2.43	17	
		CoronaVac	n<5	3	34035.67	8.18	15	
		None	0	0	175832.29	0.00	-	
Acute disseminated encephalomyelitis	Gullain-Barré syndrome	BNT162b2	0	0	30016.50	0.00	-	
		CoronaVac	0	0	34041.02	0.00	-	
		None	n<5	3	175829.22	1.71	14	
Narcolepsy and related disorders	Transverse myelitis	BNT162b2	n<5	1	30016.48	2.90	15	
		CoronaVac	n<5	3	34040.84	8.51	24	
		None	347	347	175413.28	197.88	13	
Transverse myelitis	Narcolepsy and related disorders	BNT162b2	66	73	29941.74	242.26	12	
		CoronaVac	45	36	33962.03	105.62	16	
		None	0	2	175831.41	1.14	26.5	
Transverse myelitis	Narcolepsy and related disorders	BNT162b2	0	0	30016.50	0.00	-	
		CoronaVac	0	0	34041.02	0.00	-	
		None	15	30	30016.63	99.21	12	
Death	Death	BNT162b2	15	30	30016.63	99.21	12	
		CoronaVac	28	38	34041.10	111.87	13.5	

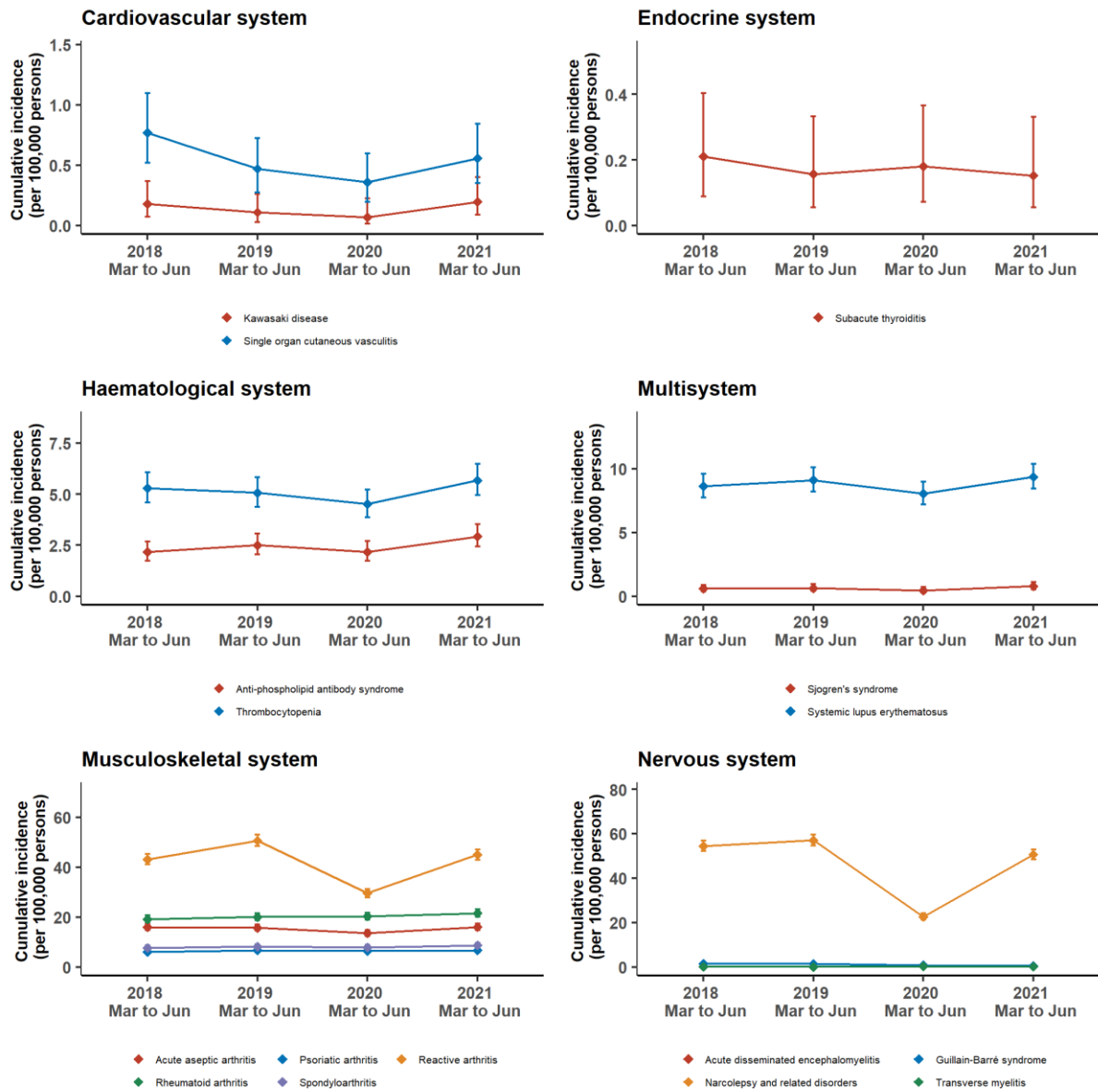
Supplementary Figure 5 Standardized incidence rates of autoimmune conditions among first dose vaccine recipients and non-vaccinated individuals using both primary and secondary diagnosis for case identification

Note: The line for CIs without a cap means the upper CI is greater than 5. Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.

Body system	Disease	Groups	Observed cases	Expected cases	Observed person-years	Age-standardized IRs (per 100,000 person-years)	Median-time to event (days)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	0	0	121752.98	0.00	-	
		BNT162b2	n<5	1	24467.15	3.39	4	
		CoronaVac	0	0	21963.28	0.00	-	
	Single organ cutaneous vasculitis	None	5	5	121750.54	4.11	15	
Endocrine system	Subacute thyroiditis	BNT162b2	0	0	24467.13	0.00	-	
		CoronaVac	0	0	21963.20	0.00	-	
		None	n<5	1	121752.28	0.82	25	
	Hematological system	Anti-phospholipid antibody syndrome	BNT162b2	0	0	24467.06	0.00	-
CoronaVac			0	0	21962.90	0.00	-	
None			14	14	121739.15	11.50	10.5	
Multisystem		Thrombocytopenia	BNT162b2	0	0	24466.51	0.00	-
	CoronaVac		n<5	1	21961.97	4.86	26	
	None		84	84	121675.33	69.06	19	
	Sjogren's syndrome	Systemic lupus erythematosus	BNT162b2	5	6	24462.78	24.72	15
CoronaVac			n<5	5	21959.29	23.65	14	
None			6	6	121742.98	4.93	15	
Musculoskeletal system		Acute aseptic arthritis	BNT162b2	0	0	24466.44	0.00	-
	CoronaVac		0	0	21962.48	0.00	-	
	None		36	36	121700.84	29.58	14.5	
	Reactive arthritis	BNT162b2	n<5	1	24464.79	2.61	4	
		CoronaVac	0	0	21962.27	0.00	-	
		None	155	155	121581.59	127.73	14	
	Rheumatoid arthritis	BNT162b2	10	12	24459.40	47.53	16.5	
		CoronaVac	18	17	21954.51	76.98	18	
		None	359	360	121441.38	296.15	14	
	Psoriatic arthritis	BNT162b2	32	56	24439.72	227.74	18	
		CoronaVac	39	62	21936.78	281.21	12	
		None	56	56	121633.84	46.05	16	
Spondyloarthritis	BNT162b2	n<5	1	24460.18	4.24	10		
	CoronaVac	n<5	5	21954.48	24.35	17.5		
	None	22	22	121703.81	18.08	15.5		
Nervous system	Acute disseminated encephalomyelitis	BNT162b2	n<5	1	24461.05	3.26	28	
		CoronaVac	n<5	4	21959.89	19.53	13	
		None	21	21	121711.32	17.25	8	
	Guillain-Barré syndrome	BNT162b2	n<5	1	24462.05	3.26	6	
		CoronaVac	0	0	21960.11	0.00	-	
		None	n<5	2	121751.67	1.64	15	
	Narcolepsy and related disorders	BNT162b2	n<5	1	24467.13	3.88	27	
		CoronaVac	0	0	21963.20	0.00	-	
None		6	6	121749.05	4.93	9.5		
Transverse myelitis	BNT162b2	0	0	24467.04	0.00	-		
	CoronaVac	0	0	21963.20	0.00	-		
	None	233	233	121443.46	191.91	14		
Death	Death	BNT162b2	39	41	24403.96	169.19	17	
		CoronaVac	45	39	21908.20	176.77	16	
		None	n<5	2	121751.03	1.64	15	
Death	Death	BNT162b2	n<5	1	24467.13	3.88	27	
		CoronaVac	0	0	21963.20	0.00	-	
		None	16	16	121753.49	195.83	14	
Death	Death	BNT162b2	16	48	24467.22	195.83	19.5	
		CoronaVac	18	19	21963.28	87.12	16	
		None	2389	2389	121753.49	1962.16	14	

Supplementary Figure 6 Standardized incidence rates of autoimmune conditions among second dose vaccine recipients and non-vaccinated individuals using both primary and secondary diagnosis for case identification

Note: The line for CIs without a cap means the upper CI is greater than 5. Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.



Supplementary Figure 7 Trend of four-month cumulative incidence between 2018 and 2021

Supplementary Table 1 ICD-9-CM diagnosis codes used for case identification

Body system	Autoimmune disease	ICD-9-CM	Description
Cardiovascular system	Kawasaki Disease ¹	446.1	Acute febrile mucocutaneous lymph node syndrome [MCLS]
	Single Organ Cutaneous Vasculitis	709.1	Vascular disorders of skin
		446.2	Hypersensitivity angiitis
		287.0	Allergic purpura
Endocrine system	Subacute thyroiditis	245.1	Subacute thyroiditis
Hematological system	Anti-phospholipid antibody syndrome ²⁻⁴	795.79	Other and unspecified nonspecific immunological findings
		286.5	Hemorrhagic disorder due to intrinsic circulating anticoagulants
		289.8	Other specified diseases of blood and blood-forming organs
	Thrombocytopenia	287.3	Primary thrombocytopenia
		287.4	Secondary thrombocytopenia
		287.5	Thrombocytopenia, unspecified
		279.12	Wiskott-Aldrich syndrome
		283.11	Hemolytic-uremic syndrome
		284.1	Pancytopenia
		446.6	Thrombotic microangiopathy
		776.1	Transient neonatal thrombocytopenia
Multisystem	Sjogren's syndrome	710.2	Sicca syndrome
	Systemic lupus erythematosus	710.0	Systemic lupus erythematosus
Musculoskeletal system	Acute aseptic arthritis	274.0	Gouty arthropathy
		696.0	Psoriatic arthropathy
		716.5	Unspecified polyarthropathy or polyarthritis
		716.6	Unspecified monoarthritis
		716.9	Unspecified arthropathy
		712	Crystal arthropathies
		711.5	Arthropathy associated with other viral diseases
		Reactive arthritis ^{5,6}	099.3
	711.1		Arthropathy associated with Reiter's disease and nonspecific urethritis
	711.3		Postdysenteric arthropathy
	716.4		Transient arthropathy
	716.5		Unspecified polyarthropathy or polyarthritis
	716.6		Unspecified monoarthritis
	716.9		Unspecified arthropathy
	719.4		Pain in joint
	372.33	Conjunctivitis in mucocutaneous disease	
	Rheumatoid arthritis	714	Rheumatoid arthritis and other inflammatory polyarthropathies
	Psoriatic arthritis	696	Psoriasis and similar disorders
	Spondyloarthritis	720	Ankylosing spondylitis and other inflammatory spondylopathies

Nervous system	Acute disseminated encephalomyelitis	323.6	Postinfectious encephalitis, myelitis, and encephalomyelitis
		323.8	Other causes of encephalitis, myelitis, and encephalomyelitis
	Guillain-Barré Syndrome	357.0	Acute infective polyneuritis
		357.8	Other inflammatory and toxic neuropathy
		357.9	Unspecified inflammatory and toxic neuropathy
	Narcolepsy and related disorders ^{7,8}	347	Cataplexy and narcolepsy
		307.4	Specific disorders of sleep of nonorganic origin
		780.5	Sleep disturbances
	Transverse myelitis	341.2	Acute (transverse) myelitis
		323.0	Encephalitis, myelitis, and encephalomyelitis in viral diseases classified elsewhere
		323.4	Other encephalitis, myelitis, and encephalomyelitis due to infection classified elsewhere
		323.5	Encephalitis, myelitis, and encephalomyelitis following immunization procedures
		323.6	Postinfectious encephalitis, myelitis, and encephalomyelitis
		323.8	Other causes of encephalitis, myelitis, and encephalomyelitis

Note: for those diseases without specific ICD-9-CM diagnosis code, series of ICD-9-CM diagnosis codes based on literature were used as approximated diagnosis. Abbreviation: ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.

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Supplementary Table 2 Standardized incidence rates of autoimmune conditions among first dose vaccine recipients and non-vaccinated individuals by sex groups

Body system	Disease	Groups	Male		Female	
			Age-standardized IRs (per 100,000 person-years)	IRRs (95% CIs)	Age-standardized IRs (per 100,000 person-years)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	2.64	-	0.00	-
		BNT162b2	0.00	0 (0-18.13)	0.00	NA (0-Inf)
		CoronaVac	0.00	0 (0-15.23)	0.00	NA (0-Inf)
	Single organ cutaneous vasculitis	None	2.64	-	0.00	-
		BNT162b2	4.22	2.61 (0.09-34.33)	0.00	NA (0-Inf)
		CoronaVac	0.00	0 (0-15.23)	0.00	NA (0-Inf)
Endocrine system	Subacute thyroiditis	None	0.00	-	2.00	-
		BNT162b2	0.00	NA (0-Inf)	0.00	0 (0-22.40)
		CoronaVac	0.00	NA (0-Inf)	0.00	0 (0-20.71)
Hematological system	Anti-phospholipid antibody syndrome	None	3.97	-	2.99	-
		BNT162b2	12.39	3.48 (0.41-23.41)	0.00	0 (0-11.06)
		CoronaVac	18.23	4.39 (0.75-25.53)	0.00	0 (0-10.22)
	Thrombocytopenia	None	5.30	-	19.97	-
		BNT162b2	5.02	1.30 (0.05-10.39)	7.17	0.32 (0.02-1.75)
		CoronaVac	0.00	0 (0-4.89)	3.18	0.30 (0.01-1.62)
Multisystem	Sjogren's syndrome	None	0.00	-	3.99	-
		BNT162b2	0.00	NA (0-Inf)	5.94	1.61 (0.07-12.84)
		CoronaVac	0.00	NA (0-Inf)	5.37	1.49 (0.06-11.87)
	Systemic lupus erythematosus	None	3.97	-	30.96	-
		BNT162b2	0.00	0 (0-8.95)	7.87	0.21 (0.01-1.09)
		CoronaVac	0.00	0 (0-7.52)	8.63	0.19 (0.01-1.01)
Musculoskeletal system	Acute aseptic arthritis	None	74.23	-	40.01	-
		BNT162b2	22.93	0.28 (0.07-0.79)	4.88	0.16 (0.01-0.83)
		CoronaVac	67.93	0.94 (0.48-1.71)	17.88	0.45 (0.11-1.29)
	Reactive arthritis	None	200.18	-	205.50	-
		BNT162b2	99.71	0.48 (0.27-0.81)	90.37	0.44 (0.25-0.74)
		CoronaVac	142.20	0.70 (0.44-1.06)	110.12	0.52 (0.31-0.83)

	Rheumatoid arthritis	None	17.20	-	44.98	-
		BNT162b2	0.00	0 (0-1.35)	19.98	0.43 (0.11-1.23)
		CoronaVac	5.82	0.34 (0.02-1.92)	13.52	0.26 (0.04-0.92)
	Psoriatic arthritis	None	9.26	-	5.99	-
		BNT162b2	10.20	0.75 (0.03-4.82)	0.00	0 (0-4.18)
		CoronaVac	19.11	1.88 (0.39-7.15)	0.00	0 (0-3.86)
	Spondyloarthritis	None	13.23	-	2.00	-
		BNT162b2	5.03	0.52 (0.02-3.11)	0.00	0 (0-22.40)
		CoronaVac	6.73	0.44 (0.02-2.61)	0.00	0 (0-20.71)
Nervous system	Acute disseminated encephalomyelitis	None	0.00	-	0.00	-
		BNT162b2	0.00	NA (0-Inf)	0.00	NA (0-Inf)
		CoronaVac	0.00	NA (0-Inf)	0.00	NA (0-Inf)
	Guillain-Barré syndrome	None	1.32	-	2.00	-
		BNT162b2	5.56	5.22 (0.13-203.65)	0.00	0 (0-22.40)
		CoronaVac	0.00	0 (0-83.36)	0.00	0 (0-20.71)
	Sleeping disorder	None	199.09	-	89.01	-
		BNT162b2	271.03	1.36 (0.94-1.92)	130.80	1.45 (0.87-2.32)
		CoronaVac	107.65	0.53 (0.31-0.84)	42.04	0.47 (0.20-0.96)
	Transverse myelitis	None	0.00	-	0.00	-
		BNT162b2	0.00	NA (0-Inf)	0.00	NA (0-Inf)
		CoronaVac	0.00	NA (0-Inf)	0.00	NA (0-Inf)
Death	Death	None	2203.78	-	1422.26	-
		BNT162b2	166.44	0.08 (0.05-0.11)	17.87	0.01 (0-0.04)
		CoronaVac	160.13	0.07 (0.05-0.11)	55.05	0.04 (0.02-0.07)

Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.

Supplementary Table 3 Standardized incidence rates of autoimmune conditions among second dose vaccine recipients and non-vaccinated individuals by sex groups

Body system	Disease	Groups	Male		Female	
			Age-standardized IRs (per 100,000 person-years)	IRRs (95% CIs)	Age-standardized IRs (per 100,000 person-years)	IRRs (95% CIs)
Cardiovascular system	Kawasaki disease	None	0.00	-	0.00	-
		BNT162b2	7.50	Inf (0.24-Inf)	0.00	NA (0-Inf)
		CoronaVac	0.00	NA (0-Inf)	0.00	NA (0-Inf)
	Single organ cutaneous vasculitis	None	1.85	-	4.43	-
		BNT162b2	0.00	0 (0-85.59)	0.00	0 (0-9.31)
		CoronaVac	0.00	0 (0-86.89)	0.00	0 (0-11.44)
Endocrine system	Subacute thyroiditis	None	0.00	-	0.00	-
		BNT162b2	0.00	NA (0-Inf)	0.00	NA (0-Inf)
		CoronaVac	0.00	NA (0-Inf)	0.00	NA (0-Inf)
Hematological system	Anti-phospholipid antibody syndrome	None	3.70	-	7.38	-
		BNT162b2	0.00	0 (0-15.64)	0.00	0 (0-4.46)
		CoronaVac	0.00	0 (0-15.88)	0.00	0 (0-5.48)
	Thrombocytopenia	None	16.67	-	11.82	-
		BNT162b2	7.50	0.50 (0.02-3.05)	43.34	3.39 (1.01-10.49)
		CoronaVac	0.00	0 (0-1.81)	0.00	0 (0-3.03)
Multisystem	Sjogren's syndrome	None	0.00	-	4.43	-
		BNT162b2	0.00	NA (0-Inf)	0.00	0 (0-9.31)
		CoronaVac	0.00	NA (0-Inf)	0.00	0 (0-11.44)
	Systemic lupus erythematosus	None	5.55	-	29.56	-
		BNT162b2	0.00	0 (0-7.72)	5.32	0.27 (0.01-1.47)
		CoronaVac	0.00	0 (0-7.84)	0.00	0 (0-1.08)
Musculoskeletal system	Acute aseptic arthritis	None	90.99	-	38.49	-
		BNT162b2	77.55	0.83 (0.38-1.63)	6.81	0.21 (0.01-1.11)
		CoronaVac	96.06	1.03 (0.51-1.92)	17.99	0.51 (0.08-1.84)
	Reactive arthritis	None	200.53	-	219.70	-
		BNT162b2	137.24	0.67 (0.38-1.10)	265.15	1.21 (0.82-1.75)
		CoronaVac	272.08	1.35 (0.90-1.99)	183.71	0.86 (0.52-1.35)

	Rheumatoid arthritis	None	16.67	-	42.89	-
		BNT162b2	0.00	0 (0-1.78)	8.36	0.19 (0.01-0.98)
		CoronaVac	11.79	0.51 (0.02-3.09)	10.14	0.23 (0.01-1.21)
	Psoriatic arthritis	None	7.41	-	7.38	-
		BNT162b2	0.00	0 (0-5.02)	6.81	1.09 (0.05-7.84)
		CoronaVac	6.45	1.14 (0.05-9.10)	38.31	5.34 (1.28-21.08)
	Spondyloarthritis	None	12.96	-	1.48	-
		BNT162b2	0.00	0 (0-2.41)	0.00	0 (0-103.15)
		CoronaVac	0.00	0 (0-2.44)	0.00	0 (0-126.78)
Nervous system	Acute disseminated encephalomyelitis	None	3.70	-	0.00	-
		BNT162b2	0.00	0 (0-15.64)	6.86	Inf (0.29-Inf)
		CoronaVac	0.00	0 (0-15.88)	0.00	NA (0-Inf)
	Guillain-Barré syndrome	None	3.70	-	1.48	-
		BNT162b2	0.00	0 (0-15.64)	0.00	0 (0-103.16)
		CoronaVac	0.00	0 (0-15.88)	0.00	0 (0-126.79)
	Sleeping disorder	None	191.40	-	91.72	-
		BNT162b2	196.73	1.05 (0.66-1.62)	78.22	0.88 (0.43-1.65)
		CoronaVac	198.24	1.02 (0.64-1.58)	79.59	0.86 (0.38-1.73)
	Transverse myelitis	None	3.70	-	0.00	-
		BNT162b2	0.00	0 (0-15.64)	6.86	Inf (0.29-Inf)
		CoronaVac	0.00	0 (0-15.88)	0.00	NA (0-Inf)
Death	Death	None	2376.65	-	1631.53	-
		BNT162b2	43.43	0.02 (0.01-0.04)	379.67	0.23 (0.17-0.31)
		CoronaVac	143.10	0.06 (0.04-0.10)	19.22	0.01 (0-0.04)

Abbreviations: CIs, confidence intervals, IRs, incidence rates, IRRs, incidence rate ratios.