

Supplemental Appendix

Supplemental Table S1 ICD-9 and ICD-10 codes for JIA and the 26 pre-specified co-existing autoimmune diseases and associated conditions

Disease	ICD-9 code(s)	ICD-10 code(s)
Autoimmune Diseases		
Addison disease	255.4	E27.1, E27.2, E27.40, E27.49
Alopecia areata	704.01	L63.2, L63.8
Autoimmune/Hashimoto's thyroiditis	245.2	E06.3
Graves' disease	242.0	E05.00, E05.01
Morphoea	701.0	L90.0, L94.0, L94.3
Multiple sclerosis	340.XX	G35
Myasthenia gravis	358.00	G70.00
Pernicious anaemia	281.0	D51.0
Primary biliary cirrhosis	571.6	M60.9, M79.1, M79.7

Takayasu arteritis	446.7	M31.4
		E10.9, E10.65, E10.10, E10.65, E10.69, E10.11, E10.641, E10.29, E10.21, E10.311, E10.319, E10.36, E10.37X1, E10.37X2, E10.37X3, E10.37X9, E10.39, E10.40, E10.51, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.649, E10.65, E10.69, E10.8
Type 1 diabetes mellitus	250.X1, 250.X3	
Vitiligo	709.01	L80
Associated Conditions		
Autoimmune disease NEC	279.4	D89.82, D89.89
Chronic glomerulonephritis	582.XX	N03.2, N03.3, N03.5, N03.8, N03.9, N08 L50.0, L50.1, L50.2, L50.3, L50.4, L50.5, L50.6, L50.8, L50.9
Chronic urticaria	708.XX	

		H15.009, H15.109, H15.119, H15.129, H15.019, H15.059, H15.049, H15.029, H15.039, H15.099
Episcleritis/scleritis	379.0X	
Erythema nodosum	695.2	L52
		D59.0, D59.1, D59.4, D59.3, D59.5, D59.6, D59.8, D59.9
Haemolytic anaemia	283.XX	
Immune thrombocytopenia		
purpura	287.31	D69.3
Leukocytoclastic vasculitis	446.29	M31.0
Myositis	729.1	M60.9, M79.1, M79.7
Pulmonary fibrosis/interstitial lung		
disease	515.X, 516.31	J84.10, J84.89
Raynaud's syndrome	443.0	I73.00
Sjögren's syndrome/sicca		
syndrome	710.2	M35.00, M35.01
Thrombocytopenia purpura	287.30	D69.49

Vasculitis	447.6	I77.6
		M08.0, M08.1, M08.2, M08.3, M04.4,
JIA	714.30, 714.31, 714.32, 714.33, 714.2	M08.8, M08.9

ICD-9, International Classification of Diseases, Ninth Revision; ICD-10, International Classification of Diseases, Tenth

Revision; JIA, juvenile idiopathic arthritis; NEC, not elsewhere classified.

Supplemental Table S2 Autoimmune and associated diseases according to JIA subcategory

Disease	Polyarticular			Enthesitis-			Polyarticular	
	Oligoarticular n=360	RF-negative n=320	Systemic n=90	related n=88	Psoriatic n=72	Undifferentiated n=65	RF-positive n=30	JIA n=1333
Autoimmune Diseases								
Addison disease	0	0	8 (8.89%)	0	0	0	0	11 (0.83%)
Alopecia areata	0	0	0	0	0	0	0	0
Autoimmune/								
Hashimoto's thyroiditis	5 (1.39%)	6 (1.88%)	0	1 (1.14%)	1 (1.39%)	0	0	16 (1.2%)
Graves' disease	0	0	0	0	0	0	0	1 (0.08%)
Morphoea	2 (0.56%)	5 (1.56%)	0	0	0	0	0	12 (0.9%)
Multiple sclerosis	0	0	0	0	0	0	0	1 (0.08%)
Myasthenia gravis	0	0	0	0	0	0	0	0
Pernicious anaemia	0	0	0	0	0	0	0	0
Primary biliary								
cirrhosis	0	0	0	0	0	0	0	0
Takayasu arteritis	0	1 (0.31%)	0	0	0	0	0	1 (0.08%)
Type 1 diabetes								
mellitus	4 (1.11%)	6 (1.88%)	1 (1.11%)	2 (2.27%)	1 (1.39%)	0	2 (6.67%)	17 (1.28%)
Vitiligo	0	2 (0.63%)	1 (1.11%)	1 (1.14%)	0	0	0	5 (0.38%)

Associated Conditions								
Autoimmune disease								
NEC	0	1 (0.31%)	1 (1.11%)	1 (1.14%)	1 (1.39%)	0	0	8 (0.6%)
Chronic								
glomerulonephritis	0	0	0	0	0	0	0	1 (0.08%)
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Chronic urticaria	11 (3.06%)	7 (2.19%)	(15.56%)	2 (2.27%)	0	5 (7.69%)	1 (3.33%)	49 (3.68%)
Episcleritis/scleritis	0	1 (0.31%)	1 (1.11%)	1 (1.14%)	0	1 (1.54%)	0	5 (0.38%)
Erythema nodosum	1 (0.28%)	0	0	0	0	0	0	1 (0.08%)
Haemolytic anaemia	1 (0.28%)	0	0	0	0	0	0	1 (0.08%)
Immune								
thrombocytopenia								
purpura	1 (0.28%)	0	1 (1.11%)	0	0	0	0	2 (0.15%)
Leukocytoclastic								
vasculitis	0	0	0	1 (1.14%)	0	0	0	2 (0.15%)
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Myositis	37 (10.28%)	23 (7.19%)	(17.78%)	(19.32%)	7 (9.72%)	6 (9.23%)	1 (3.33%)	135 (10.14%)
Pulmonary								
fibrosis/interstitial lung								
disease	1 (0.28%)	1 (0.31%)	5 (5.56%)	0	0	0	0	15 (1.13%)

Raynaud's syndrome	0	5 (1.56%)	0	2 (2.27%)	0	3 (4.62%)	0	19 (1.43%)
Sjögren's syndrome/sicca syndrome	0	2 (0.63%)	0	0	0	1 (1.54%)	0	3 (0.23%)
Thrombocytopenia purpura	1 (0.28%)	0	0	0	0	0	0	1 (0.08%)
Vasculitis	0	2 (0.63%)	1 (1.11%)	2 (2.27%)	0	0	0	8 (0.6%)

JIA, juvenile idiopathic arthritis; NEC, not elsewhere classified; RF, rheumatoid factor.