Supplemental Table 1. Additional Baseline Characteristics

		Control	Psoriatic Arthritis		Rheumatoid arthritis		Psoriasis	
			No DMARD	DMARD	No DMARD	DMARD	No DMARD	DMARD
		N=81,573	N=4,174	N=4,532	N=17,912	N=23,840	N=134,095	N=4,329
Demographics	Socioeconomic Status[1] (Mean(SD))	2.56 (1.48)	2.53 (1.34)	2.51 (1.4)	2.71 (1.4)	2.63 (1.4)	2.64 (1.4)	2.69 (1.4)
	Visits in baseline period (Mean(SD))	36.86 (40.9)	38.73 (43.8)	54.52 (55.3)	43.58 (48.5)	58.64 (60.2)	33.57 (39.8)	52.14 (53.3)
Comorbidities	Diabetes N (%)	4,402 (5.4%)	271 (6.5%)	321 (7.1%)	1,389 (7.8%)	1,842 (7.7%)	6,659 (5.0%)	360 (8.3%)
	Hyperlipidemia N (%)	6,174 (7.6%)	364 (8.7%)	401 (8.9%)	1,747 (9.8%)	2,367 (9.9%)	9,808 (7.3%)	397 (9.2%)
	Hypertension N (%)	15,226 (18.7%)	896 (21.5%)	996 (22.0%)	5,261 (29.4%)	6,551 (27.5%)	22,038(16.4%)	856 (19.8%)
	Heart Failure N (%)	1,227 (1.5%)	51 (1.2%)	34 (0.8%)	810 (4.5%)	653 (2.7%)	1,623 (1.2%)	110 (1.6%)
	Chronic Kidney Disease N (%)	1,498 (1.8%)	60 (1.4%)	99 (2.2%)	569 (3.2%)	824 (3.5%)	1,762 (1.3%)	135 (3.1%)
	Peripheral Vascular Disease N (%)	868 (1.1%)	54 (1.3%)	34 (0.8%)	336 (1.9%)	344 (1.4%)	1,545 (1.2%)	59 (1.4%)
	Atrial Fibrillation N (%)	1,670 (2.1%)	71 (1.7%)	59 (1.3%)	805 (4.5%)	689 (2.9%)	2,210 (1.7%)	87 (2.0%)
	Charlson Index Mean (SD)	0.26 (0.7)	0.27 (0.7)	0.23 (0.6)	0.46 (0.9)	0.37 (0.8)	0.24 (0.7)	0.34 (0.8)
Body Mass Index	Normal N (%)	21,399 (26.2%)	1,086 (26.0%)	1,185 (26.1%)	5,425 (30.3%)	7,932 (33.3%)	43,535 (32.5%)	1,212 (28.0%)
	Overweight N (%)	16,699 (20.5%)	1,183 (28.3%)	1,240 (27.4%)	4,684 (26.2%)	6,701 (28.1%)	35,891 (26.8%)	1,252 (28.9%)
	Obese N (%)	9,706 (11.9%)	844 (20.2%)	1,131 (25%)	2,973 (16.6%)	4,374 (18.4%)	22,159 (16.5%)	1,027 (23.7%)
	Underweight N (%)	1,697 (2.08%)	57 (1.37%)	52 (1.15%)	506 (2.82%)	647 (2.71%)	3,271 (2.44%)	76 (1.76%)
	Missing N (%)	*32,072 (39.3%)*	*1,003 (24%)*	*925 (20.4%)*	*4,324 (24.1%)*	*4,186 (17.6%)*	*29,239 (21.8%)*	*762 (17.6%)*
Smoking Status	Non-Smoker N (%)	37,931 (46.5%)	1,860 (44.6%)	2,134 (47.1%)	8,005 (44.7%)	10,178 (42.7%)	51,286 (38.3%)	1,468 (33.9%)
	Past Smoker N (%)	14,916 (18.3%)	883 (21.2%)	1,109 (24.5%)	3,509 (19.6%)	5,927 (25%)	27,003 (20.1%)	1,075 (24.8%)
	Current Smoker N (%)	17,910 (22%)	950 (22.8%)	905 (20%)	3,731 (20.8%)	5,459 (22.9%)	39,410 (29.4%)	1,418 (32.8%)
	Missing N (%)	*10,816 (13.3%)*	*481 (11.5%)*	*384 (8.47%)*	*2,667 (14.9%)*	*2,246 (9.42%)*	*16,396 (12.2%)*	*368 (8.50%)*
Medications	Prescription NSAID[2]	38,235 (46.9%)	2,838 (68.0%)	3,863 (85.2%)	11,562 (64.6%)	19,982 (83.8%)	31,651 (23.6%)	1,315 (30.4%)

Oral Corticosteroids[3]	7,406 (9.1%)	488 (11.7%)	1,013 (22.4%)	3,926 (21.9%)	10,495 (44.0%)	6,783 (5.06%)	520 (12.0%)
Beta Blocker	7,495 (9.2%)	406 (9.7%)	473 (10.4%)	2,335 (13.0%)	3,097 (13.0%)	10,926 (8.2%)	362 (8.4%)
ARB or ACE inhibitor	8,248 (10.1%)	462 (11.1%)	573 (12.6%)	2,675 (14.9%)	3,652 (15.3%)	11,786 (8.9%)	556 (12.8%)
Any antihypertensive	18,724 (23.0%)	1,079 (25.9%)	1,198 (26.4%)	7,070 (39.5%)	8,867 (37.2%)	27,204 (20.3%)	1,089 (25.2%)
Aspirin	7,462 (9.2%)	381 (9.1%)	335 (7.4%)	2,881 (16.1%)	3, 204 (13.4%)	11,091 (8.3%)	431 (10.0%)
Warfarin	1,226 (1.5%)	52 (1.3%)	57 (1.3%)	513 (2.9%)	635 (2.7%)	1,609 (1.2%)	73 (1.7%)
Clopidogrel	575 (0.7%)	36 (0.9%)	35 (0.8)	226 (1.3%)	299 (1.3%)	848 (0.6%)	51 (1.2%)
Oral anti-diabetic medication	2,439 (3.0%)	144 (3.5%)	179 (4.0%)	768 (4.3%)	907 (3.8%)	3,678 (2.7%)	217 (5.0%)
Insulin	890 (1.1%)	44 (1.1%)	69 (1.5%)	254 (1.4%)	434 (1.8%)	1,418 (1.1%)	89 (2.1%)
Statin	7,374 (9.0%)	392 (9.5%)	497 (11.0%)	2,099 (11.7%)	3,000 (12.6%)	10,652 (7.9%)	521 (12.0%)
Any lipid lowering agent	7,657 (9.4%)	411 (9.9%)	522 (11.5%)	2,205 (12.3%)	3,126 (13.1%)	11,197 (8.4%)	548 (12.7%)

[1]Socioeconomic Status is measured by Townsend Deprivation Score and ranges from 1-5 where 1 is lowest level of deprivation and 5 is the highest level of deprivation.
[2]NSAIDs include tiaprofenic, tenoxicam, sulindac, rofecoxib, piroxicam, naproxen, ketoprofen, indometacin, ibuprofen, flurbiprofen, etodolac, diclofenac, dexibuprofen, celecoxib, parecoxib, lumiracoxib, valdecoxib, benaoxaprofen, fenbufen,flurbiprofen, indoprefen, ketorolac, meloxicam, nabumetone, nimesulide, phenylbutazone, tolmetin, mefanamic acid, diflunisal, etoricoxib
[3]Oral Corticosteroids include betamethasone, beclometasone, dexamethoasone, deflazacort, cortisone acetate, fludrocortisones, hydrocortisone, methylprednisolone, prednisolone, prednisone, triamcinolone

Supplemental Table 2. Hazard Ratios and 95% Confidence Intervals for Major Adverse Cardiovascular Events with Adjustments for Cardioprotective Medications

		Composite	MI	Stroke	CV Death
Unexposed		Ref	Ref	Ref	Ref
PsA	No DMARD	1.22 (1.01-1.46)	1.34 (1.03-1.75)	1.30 (1.01-1.67)	1.04 (0.77-1.40)
	DMARD	1.12 (0.90-1.39)	1.31 (0.97-1.77)	1.07 (0.78-1.47)	0.89 (0.59-1.32)
RA	No DMARD	1.37 (1.26-1.48)	1.32 (1.16-1.50)	1.27 (1.14-1.43)	1.39 (1.24-1.55)
	DMARD	1.51 (1.40-1.63)	1.89 (1.69-2.12)	1.18 (1.05-1.33)	1.55 (1.38-1.74)
Psoriasis	No DMARD	1.07 (1.01-1.14)	1.07 (0.98-1.18)	1.07 (0.98-1.16)	1.08 (0.99-1.18)
	DMARD	1.35 (1.11-1.65)	1.22 (0.89-1.67)	1.38 (1.05-1.83)	1.37 (1.03-1.83)
BB		1.04 (0.97-1.11)	1.26 (1.14-1.40)	1.18 (1.08-1.29)	1.12 (1.03-1.23)
ACE/ARB		1.06 (0.99-1.13)	1.03 (0.92-1.15)	1.14 (1.04-1.26)	1.67 (1.52-1.82)
Statin		0.77 (0.71-0.84)	0.96 (0.84-1.09)	0.96 (0.85-1.09)	1.15 (1.02-1.30)
Visits in baseline period		1.00 (1.00-1.00)	1.00 (1.00-1.00)	1.00 (1.00-1.00)	1.00 (1.00-1.00)

The models here represent the fully adjusted models from Table 3 and include age, sex, hypertension, diabetes, hyperlipidemia, smoking status (never, past, current), and start year in the cohort (HR not shown) with the addition of BB, ACE/ARB, statins and visits in the baseline period. Medication use is defined within the one year prior to cohort entrance. Abbreviations: BB = beta-blocker, ACE/ARB = ACE inhibitor or Angiotensin recent blocker

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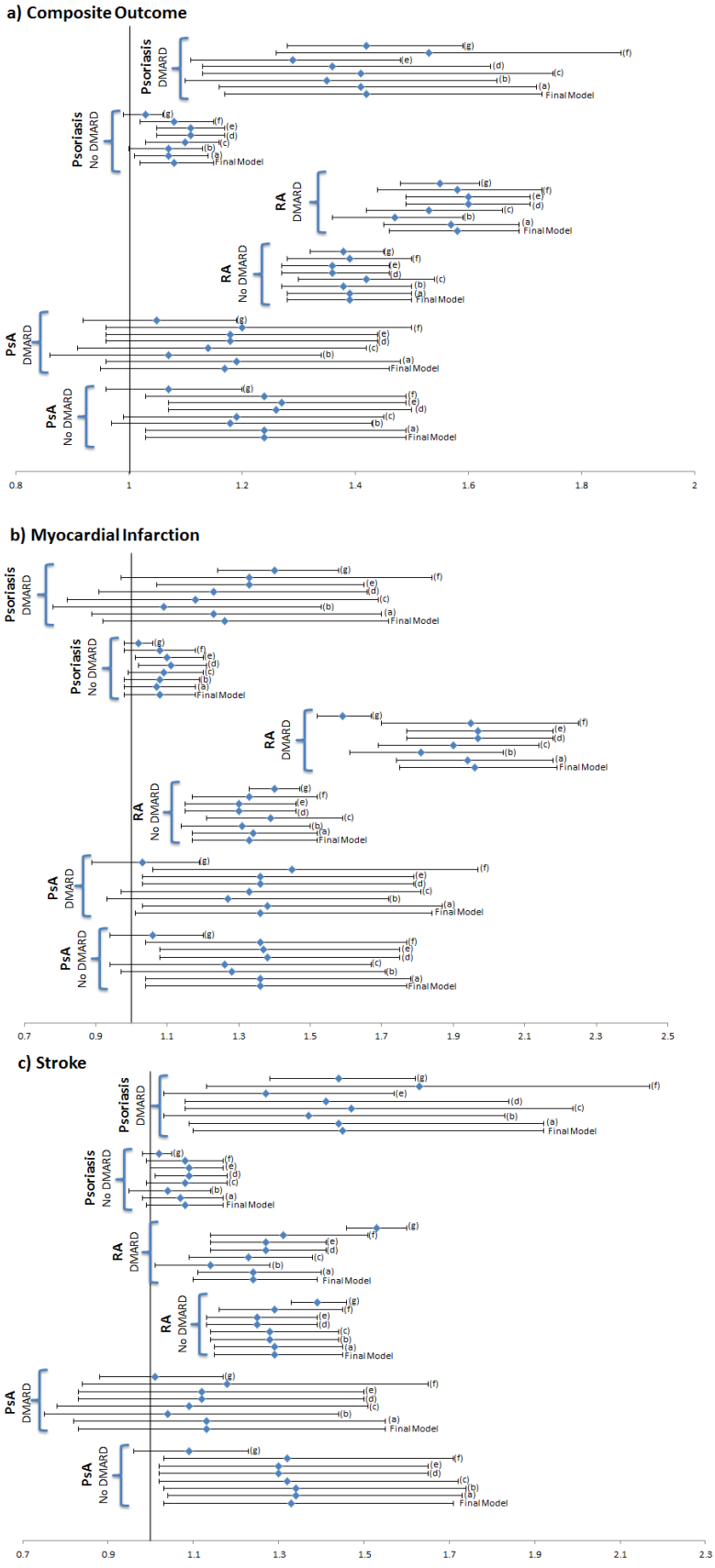
Supplemental Figure 1. Sensitivity Analyses.



Supplemental Figure 1 Legend:

We performed several sensitivity analyses to test the assumptions made in modeling. These are represented in the figure for each outcome stratified by disease-DMARD status and labeled a-g as below. The final model from Table 3 is also included as the lowest line for each disease-dmard category. The following sensitivity analyses were performed: We restricted patients in the cohort to a) only those followed for at least one year prior to index date to ensure capture of comorbidities, b) only those with at least one visit per calendar year during their time in the cohort, c) only those with incident disease defined as patients with at least one year of follow up prior to the first diagnosis code. d) We examined the impact of missing data using multiple imputation (10 iterations) for smoking category and body mass index category. Body mass index was not significant in the full model and therefore not included. The main analysis was then repeated using the imputed smoking values. e) To examine whether missed DMARD prescriptions would have an impact on the results, we predicted DMARD use by first creating a propensity score and then assigned non-DMARD users in the top three quintiles of the propensity score to DMARD use (an increase of approximately 30% in DMARD users). f) A the time varying covariate analysis was designed to test for immortal time bias created by starting follow up time in the DMARD group at first DMARD exposure (included within the start date algorithm noted in the methods). DMARDs were included as a time-varying covariate so that time prior to DMARD initiation was allotted to the "no DMARD" group. This analysis assumed DMARD status as a binary covariate (yes/no) and did not allow for discontinuation (i.e. once exposed to a DMARD, the subject was considered always exposed). We maintained the stratified presentation of the results for easier comparison with the original model. g) We performed a competing risk analysis, including death as a potential outcome. Finally, we utilized alternative definitions for the outcomes including restricting CVA to only ischemic CVA and then only ischemic CVA with a subsequent prescription for anticoagulants or antiplatelet agents (aspirin, cilostazol, clopidogrel, dipyridamole, enoxaparin, heparin, prasugrel, ticlopidine, warfarin). We also broadened the definition of cardiovascular death to include aneurysms and peripheral vascular disease.

The results of these analyses are not shown. The relatively little difference between the point estimates among the final model and the sensitivity analyses suggests results are robust to the assumptions tested.