SUPPLEMENTAL MATERIAL

eTable 1. Criteria Used to Assess Comparative Effectiveness of Biologics or Treatment of Interest with Psoriatic Arthritis

Criteria	Description
High adherence to index biologic/treatment	• Receive at least recommended number of injections or infusions according to label or achieve medication possession ratio of at least 80%, with the first 30 days of the 1-year period accepted as fully adherent for all groups.
2. No biologic/treatment switch or add	 Patients were excluded if, based on prescription or procedure, they added or switched to another IL-12/23, IL-17A, PDE4, or TNF-alpha different from their initial biologic or to abatacept, brodalumab, guselkumab, and tildrakizumab.
3. No addition of new nonbiologic DMARD	• Patients were excluded if, based on prescription or procedure, they started taking methotrexate, leflunomide, sulfasalazine, cyclosporine, or tofacitinib while still taking their exposure group biologic and did not previous take the nonbiologic DMARD in the 6 months preceding the index date.
4. No increase in biologic/treatment dose or frequency	 For any given exposure group biologic after the first 30 days, expected time between subsequent procedures cannot be shortened by more than 20%. Subsequent doses for prescriptions cannot be greater than the first dose after the first 30 days. Certolizumab Pegol: Two cutoffs for checking procedure frequency based on two possible dose schedules, one for every other week and one for every 4 weeks. Infliximab: Uses first dose after first 42 days instead as baseline instead. Difference between ending and starting dose cannot be greater than or equal to 100 mg. Infusions cannot be more frequent than 42 days apart.
5. No more than one glucocorticoid joint injection	• Cannot receive injection more than once, determined as no more than one unique calendar day of injection between index day + 90 days and index day + 1 year (inclusive)
6. No increase in dose of oral glucocorticoid	 If patient received no prescription in the 6 months before index date, then they cannot have received more than 30 days of oral glucocorticoids between index date + 90 days and index day + 1 year (inclusive) If patient received prescription in the 6 months before index date, then they cannot have received a cumulative dose greater than or equal to 120% of their cumulative dose in the 6 months before index date during index day + 6 months and index day + 1 year (comparing 6 month periods before index date and the 6 months leading up to 1 year after index day)

Adapted and modified from Curtis et al.¹⁰; **IL** interleukin; **PDE4** phosphodiesterase-4; **TNF** tumor necrosis factor; **DMARD** disease-modifying antirheumatic drugs

eTable 2. Flow Diagram of Cohort Attrition

Individuals with at least one medical or pharmacy claim for biologic of interest including ustekinumab, secukinumab, ixekizumab, apremilast, certolizumab pegol, etanercept, adalimumab, infliximab, or golimumab (n = 2430953)

Individuals with qualifying index date as earliest service date for a biologic group that falls between October 1, 2013 and April 1, 2018 without belonging to 2 or more groups on the same index date, after biologic naïve and experience status determined, and without having both procedure and pharmacy claims for their biologic group that was used for index date (n = 89413)

IL-12/23 (n = 7049)

IL-17A (n = 1899) PDE4 (n = 7347)

TNF- α (n = 73118)

Individuals without both procedure and pharmacy claims for their index biologic group, and who were not diagnosed with Crohn's disease, ankylosing spondylitis (based on at least 1 diagnosis by rheumatologist), rheumatoid arthritis (based on at least 1 diagnosis by rheumatologist), juvenile idiopathic arthritis, ulcerative colitis, or hidradenitis suppurativa (n = 37438)

IL-12/23 (n = 6057)

IL-17A (n = 1534)

PDE4 (n = 6431) TNF- α (n = 23416)

Individuals who have been diagnosed with psoriatic arthritis based on at least two diagnoses of PsA from a rheumatologist or at least one diagnosis of PsA from a rheumatologist along with at least one diagnosis of psoriasis from a dermatologist prior to index date (n = 5802)

IL-12/23 (n = 644)

IL-17A (n = 284) PDE4 (n = 1081) TNF- α (n = 3793)

Individuals with continuous enrollment 6 months before and 12 months after the index date (n = 2760)

Individuals of at least 18 years of age at time of index date with known sex and remove any individual with previous biologic same as index biologic prior to index date (n = 2730)

IL-12/23 (n = 327)

IL-17A (n = 138)

PDE4 (n = 624)

 $TNF-\alpha$ (n = 1641)