**Appendices:**

**Appendix 1: Biologic and Systemic Psoriasis Medications**

|  |  |  |
| --- | --- | --- |
| **Generic Name of Medication** | **GPI Prefix\*** | **HCPCS** |
| *Biologic Medications* |  |  |
| Adalimumab | 66270015 | J0135 |
| Etanercept | 66290030 | J1438 |
| Infliximab | 52505040 | J1745, Q5102 |
| Ixekizumab | 90250554 |  |
| Secukinumab | 90250575 |  |
| Ustekinumab | 90250585 | C9261, J3357, C9487, Q9989 |
|  |  |  |
| *Systemic Medications* |  |  |
| Apremilast | 66700015 |  |
| Cyclosporine | 96468810, 99402020 | J7502, J7515, J7516 |
| Hydroxyurea | 21700030, 82803030, 96568814 | S0176 |
| Methotrexate | 21300050, 66250050 | J8610, J9250, J9260 |
| Acitretin | 90250510 |  |
| Thioguanine | 21300060, 96805627 |  |

GPI: Generic Product Identifier, HCPCS: Healthcare Common Procedure Coding System

\* All medications with the GPI prefix were included

**Appendix 2: Psychiatric Treatment**

|  |  |  |
| --- | --- | --- |
| **Treatment Type** | **GPI Prefix\*** | **HCPCS** |
| Antidepressants | 58 | S0106, J1320 |
| Antipsychotics | 59 | J2426, J2794, J1630, J1631, S0136, C9497, S0166, J2358, J3230, Q0161, J2680, J3310, Q0175, J0780, S0183, Q164, J2950, J3400, J0400, J0401, J1942, J3486 |
| Antianxiety Agents | 57 | J1990, J3360, J2060, J1790, J1810, J3410 |

GPI: Generic Product Identifier, HCPCS: Healthcare Common Procedure Coding System

\* All medications with the GPI prefix were included

**Appendix 3: Comorbid Condition ICD Codes**

|  |  |  |
| --- | --- | --- |
| **Comorbid Condition** | **ICD-9 Codes** | **ICD-10 Codes** |
| *Other Psychiatric Conditions* |  |  |
| Bipolar/Manic Depression | 296.0, 296.1, 296.4 - 296.8 | F30, F31 |
| Dementia | 290, 294.1, 294.2, 331.0, 331.2 | F01, F02, F03, G30, G31.1 |
| Schizophrenic/Delusional Disorders | 295, 297 | F20, F22 |
| Substance Use Disorder | 303, 304, 305 | F10 - F19 |
| Suicidal Ideation | V62.84, E950-E959 | R45.851, X71 - X83, T14.91, Y21 -Y33 |
| *Other Immunological Conditions* |  |  |
| Psoriatic Arthritis | 696.0 | L40.52, L40.54, L40.59 |
| Ankylosing Spondylitis | 720.0 | M45 |
| Juvenile Chronic Polyarthritis | 714.3 | M08.00, M08.3, M08.40 |
| Rheumatoid Arthritis | 714 | M05, M06 |
| Hidradenitis Suppurativa | 705.83 | L73.2 |
| Crohn's Disease | 555 | K50 |
| Ulcerative Colitis | 556 | K51 |
| Diabetes | 250 | E10-E13 |
| Hypertension | 401 - 405 | I10 - I16 |
| Hyperlipidemia | 272.0, 272.1, 272.2, 272.4 | E78.0, E78.1, E78.2, E78.4, E78.5 |
| Liver Cirrhosis | 571.2, 571.5, 571.6 | K70.3, K74 |
| Obesity | 278.00, 278.01, V85.3, V85.4 | E66.0-E66.2, E66.8, E66.9, Z68.3, Z68.4 |
| Thyroid Disease | 240 - 246 | E00 - E07 |
| Uveitis | 364.0 - 364.3 | H20 |

**Appendix 4: Concomitant Medication**

|  |  |  |
| --- | --- | --- |
| **Treatment Type** | **GPI Prefix\*** | **HCPCS** |
| Angiotensin II Receptor Blockers | 3615 | N/A |
| Anti-Anxiety | 57 | J1990, J3360, J2060, J1790, J1810, J3410 |
| Anticholinergics | 49 | N/A |
| Antidepressants | 58 | J1320, S0106 |
| Anti-Diabetic Drugs | 27 | J1815, J1817, E0784, S5550-S5571, G9147, S9353 |
| Anti-Hyperlipidemics | 39 | N/A |
| Anti-Hypertensives | 36 | J0210, J2760, J0360, S0139, J1730, J2670 |
| Antiplatelet | 85.15 | J1245, J0130, J1327, J3246, C9460 |
| Beta Blockers | 33, 369920, 369927, 369988 | J1800, C9482 |
| Calcium Channel Blockers | 34, 369915, 369930, 369967, 369968 | C9248 |
| Anti-Neoplastic Agents | 21 | J8501-J9999 |
| Bone Density Regulators | 3004 | J0897, J1740 |
| Respiratory Medications | 41, 42, 43, 44, 45 | N/A |
| Thyroid Medications | 28 | N/A |
| Opioids/Narcotics | 65 | J0131, J0745, J0592, J0595, J1230, J1810, J1960, J2175, J2180, J2270, J2271, J2275, J2410, J3010, S0092, J1170 |

GPI: Generic Product Identifier, HCPCS: Healthcare Common Procedure Coding System

\* All medications with the GPI prefix were included

**Appendix 5: Comorbid Conditions among Matched Moderate-to-Severe PsO Patients with Treated Anxiety/Depression and without Anxiety/Depression**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Total PsO** | | **Matched\* PsO**  **with Treated Anxiety/Depression** | | **Matched\* PsO**  **without Treated Anxiety/Depression** | | **p-value** |
| *Other Psychiatric Conditions* |  |  |  |  |  |  |  |
| Bipolar/Manic Depression | 145 | 2.7% | 138 | 5.2% | 7 | 0.3% | <0.001 |
| Dementia | 8 | 0.1% | 7 | 0.3% | 1 | 0.0% | 0.034 |
| Schizophrenic/Delusional Disorders | 10 | 0.2% | 10 | 0.4% | 0 | 0.0% | 0.002 |
| Substance Use Disorder | 505 | 9.4% | 385 | 14.4% | 120 | 4.5% | <0.001 |
| Suicidal Ideation | 20 | 0.4% | 20 | 0.7% | 0 | 0.0% | <0.001 |
| *Other Immunological Conditions* |  |  |  |  |  |  |  |
| Psoriatic Arthritis | 1,972 | 36.9% | 1,048 | 39.2% | 924 | 34.5% | <0.001 |
| Ankylosing Spondylitis | 60 | 1.1% | 34 | 1.3% | 26 | 1.0% | 0.299 |
| Juvenile Chronic Polyarthritis | 11 | 0.2% | 5 | 0.2% | 6 | 0.2% | 0.763 |
| Rheumatoid Arthritis | 677 | 12.7% | 366 | 13.7% | 311 | 11.6% | 0.024 |
| Hidradenitis Suppurativa | 29 | 0.5% | 18 | 0.7% | 11 | 0.4% | 0.192 |
| Ulcerative Colitis | 64 | 1.2% | 45 | 1.7% | 19 | 0.7% | 0.001 |
| Crohn’s Disease | 113 | 2.1% | 74 | 2.8% | 39 | 1.5% | 0.001 |
| Diabetes | 541 | 10.1% | 413 | 15.4% | 128 | 4.8% | <0.001 |
| Hypertension | 1,224 | 22.9% | 966 | 36.1% | 258 | 9.6% | <0.001 |
| Hyperlipidemia | 1,212 | 22.7% | 959 | 35.9% | 253 | 9.5% | <0.001 |
| Liver Cirrhosis | 83 | 1.6% | 79 | 3.0% | 4 | 0.1% | <0.001 |
| Obesity | 550 | 10.3% | 449 | 16.8% | 101 | 3.8% | <0.001 |
| Thyroid Disease | 540 | 10.1% | 410 | 15.3% | 130 | 4.9% | <0.001 |
| Uveitis | 22 | 0.4% | 18 | 0.7% | 4 | 0.1% | 0.003 |

\* Patients were matched in a 1:1 ratio on age, gender, health plan type, and region