Supplementary Table 1. Crohn’s disease-specific medication utilization at the time of enrollment into the TARGET-IBD cohort, a comparison across age categories

|  | **Age at Enrollment**   |   |   |   |
| --- | --- | --- | --- | --- |
| **IBD Treatments at Enrollment**   | **18-29(N=442)**   | **30-49(N=744)**   | **50-65(N=426)**   | **> 65(N=220)**   | **P-Value(18-29 vs. >65)**   | **P-Value(30-49 vs. >65)**   | **P-Value(50-65 vs. >65)**   |
|  | **n (%)** | **n (%)** | **n (%)** | **n (%)** |  |  |  |
| Aminosalicylate Monotherapy  | 28 (6.3)  | 59 (7.9)  | 48 (11.3)  | 43 (19.5)  | <.0001  | <.0001  | 0.0042  |
| Thiopurine Monotherapy  | 24 (5.4)  | 45 (6.0)  | 23 (5.4)  | 16 (7.3)  | 0.3489  | 0.5125  | 0.3437  |
| Methotrexate Monotherapy  | 2 (0.5)  | 14 (1.9)  | 4 (0.9)  | 2 (0.9)  | 0.4755  | 0.3214  | 0.9701  |
| Anti-TNF Monotherapy  | 169 (38.2)  | 209 (28.1)  | 91 (21.4)  | 30 (13.6)  | <.0001  | <.0001  | 0.0172  |
| Anti-Integrin Monotherapy  | 18 (4.1)  | 45 (6.0)  | 27 (6.3)  | 16 (7.3)  | 0.0791  | 0.5125  | 0.6518  |
| Anti-IL-12/23 Monotherapy  | 36 (8.1)  | 65 (8.7)  | 39 (9.2)  | 11 (5.0)  | 0.1381  | 0.0709  | 0.0613  |
| JAK Inhibitor Monotherapy  | 1 (0.2)  | 2 (0.3)  | 1 (0.2)  | 1 (0.5)  | 0.6144  | 0.6641  | 0.6339  |
| Anti-TNF + Thiopurine  | 33 (7.5)  | 69 (9.3)  | 28 (6.6)  | 11 (5.0)  | 0.2305  | 0.0436  | 0.4268  |
| Anti-TNF + Methotrexate  | 18 (4.1)  | 40 (5.4)  | 19 (4.5)  | 9 (4.1)  | 0.9910  | 0.4460  | 0.8273  |
| Anti-Integrin + Thiopurine  | 8 (1.8)  | 10 (1.3)  | 7 (1.6)  | 5 (2.3)  | 0.6863  | 0.3285  | 0.5747  |
| Anti-Integrin + Methotrexate  | 5 (1.1)  | 8 (1.1)  | 2 (0.5)  | 6 (2.7)  | 0.1305  | 0.0721  | 0.0140  |
| Anti-IL-12/23 + Thiopurine  | 12 (2.7)  | 18 (2.4)  | 6 (1.4)  | 0 (0.0)  | 0.0137  | 0.0199  | 0.0772  |
| Anti-IL-12/23 + Methotrexate  | 13 (2.9)  | 15 (2.0)  | 13 (3.1)  | 2 (0.9)  | 0.0982  | 0.2733  | 0.0869  |
| Biologic + Aminosalicylate | 30 (6.8)  | 53 (7.1)  | 37 (8.7)  | 12 (5.5)  | 0.5079  | 0.3860  | 0.1419  |
| Thiopurine/Methotrexate + Aminosalicylate | 11 (2.5)  | 29 (3.9)  | 29 (6.8)  | 10 (4.5)  | 0.1552  | 0.6686  | 0.2530  |

Anti-interleukin 12/23 (Anti-IL 12/23); Anti-tumor necrosis factor alpha (anti-TNF)

Supplementary Table 2. Ulcerative colitis-specific medication utilization at the time of enrollment into the TARGET-IBD cohort, a comparison across age categories

|  | **Age at Enrollment**   |   |   |   |
| --- | --- | --- | --- | --- |
| **IBD Treatments at Enrollment**   | **18-29(N=207)**   | **30-49(N=442)**   | **50-65(N=298)**   | **> 65(N=201)**   | **P-Value(18-29 vs. >65)**   | **P-Value(30-49 vs. >65)**   | **P-Value(50-65 vs. >65)**   |
|  | **n (%)** | **n (%)** | **n (%)** | **n (%)** |  |  |  |
| Aminosalicylate Monotherapy  | 61 (29.5)  | 189 (42.8)  | 114 (38.3)  | 101 (50.2)  | <.0001  | 0.0771  | 0.0080  |
| Thiopurine Monotherapy  | 4 (1.9)  | 12 (2.7)  | 11 (3.7)  | 10 (5.0)  | 0.0918  | 0.1442  | 0.4840  |
| Methotrexate Monotherapy  | 1 (0.5)  | 0 (0.0)  | 1 (0.3)  | 1 (0.5)  | 0.9834  | 0.1381  | 0.7791  |
| Anti-TNF Monotherapy  | 35 (16.9)  | 46 (10.4)  | 22 (7.4)  | 12 (6.0)  | 0.0005  | 0.0689  | 0.5395  |
| Anti-Integrin Monotherapy  | 13 (6.3)  | 21 (4.8)  | 14 (4.7)  | 8 (4.0)  | 0.2937  | 0.6626  | 0.7019  |
| JAK Inhibitor Monotherapy  | 2 (1.0)  | 5 (1.1)  | 0 (0.0)  | 2 (1.0)  | 0.9764  | 0.8775  | 0.0848  |
| Anti-TNF + Thiopurine  | 13 (6.3)  | 37 (8.4)  | 26 (8.7)  | 8 (4.0)  | 0.2937  | 0.0432  | 0.0393  |
| Anti-TNF + Methotrexate  | 7 (3.4)  | 5 (1.1)  | 8 (2.7)  | 2 (1.0)  | 0.1012  | 0.8775  | 0.1870  |
| Anti-Integrin + Thiopurine  | 9 (4.3)  | 12 (2.7)  | 6 (2.0)  | 1 (0.5)  | 0.0120  | 0.0642  | 0.1583  |
| Anti-Integrin + Methotrexate  | 3 (1.4)  | 2 (0.5)  | 1 (0.3)  | 1 (0.5)  | 0.3299  | 0.9381  | 0.7791  |
| Biologic + Aminosalicylate | 49 (23.7)  | 89 (20.1)  | 65 (21.8)  | 27 (13.4)  | 0.0080  | 0.0406  | 0.0180  |
| Thiopurine/Methotrexate + Aminosalicylate | 26 (12.6)  | 56 (12.7)  | 38 (12.8)  | 22 (10.9)  | 0.6131  | 0.5350  | 0.5433  |

Anti-interleukin 12/23 (Anti-IL 12/23); Anti-tumor necrosis factor alpha (anti-TNF)

| Supplementary Table 3. Evaluation of aminosalicylate use at the time of enrollment into the TARGET-IBD cohort, a comparison across age categories |
| --- |
|  | **Age at Enrollment**   |   |   |   |   |
| **IBD Treatments at Enrollment**   | **18-29(N=649)**   | **30-49(N=1186)**   | **50-65(N=724)**   | **> 65(N=421)**   | **P-Value(overall)**   | **P-Value(18-29 vs. >65)**   | **P-Value(30-49 vs. >65)**   | **P-Value(50-65 vs. >65)**   |
| Sulfasalazine Monotherapy, n (%)  | 4 (0.6%)  | 17 (1.4%)  | 15 (2.1%)  | 25 (5.9%)  | <.0001  | <.0001  | <.0001  | 0.0006  |
| Other Aminosalicylate Monotherapy, n (%)  | 88 (13.6%)  | 239 (20.2%)  | 153 (21.1%)  | 124 (29.5%)  | <.0001  | <.0001  | <.0001  | 0.0015  |
|  Note: P-values are from general association tests for difference in drug class usage by age group.  |
|  Note: Monotherapy is defined as use of only one of the following drug classes: aminosalicylate, thiopurine, methotrexate, calcineurin inhibitor, anti-TNF, anti-integrin, anti-IL-12/23, or JAK inhibitor.  |
|  Note: Other aminosalicylates include mesalazine, balsalazide, and olsalazine. Sulfasalazine monotherapy and other aminosalicylate monotherapy are not mutually exclusive.  |

Supplementary Table 4: Multivariable analysis evaluating odds of sulfasalazine monotherapy use among patients with Crohn’s disease and ulcerative colitis in the TARGET-IBD cohort

|  |  |
| --- | --- |
|  | Crohn’s Disease and Ulcerative ColitisAdjusted OR (95% CI) |
| Age18-2930-4950-65>65 | 0.16 (0.06 – 0.49)0.31 (0.16 – 0.62)0.42 (0.21 – 0.82)Reference |
| Academic Site of Care | 0.23 (0.12 – 0.44) |
| Female Sex | 0.59 (0.34 – 1.01) |
| RaceWhiteNon-White | 1.40 (0.50 – 3.95)Reference |

All variables included in multivariable analysis are depicted above.

Supplementary Table 5: Multivariable analysis evaluating odds of non-sulfasalazine aminosalicylate monotherapy use among patients with Crohn’s disease and ulcerative colitis in the TARGET-IBD cohort

|  |  |
| --- | --- |
|  | Crohn’s Disease and Ulcerative ColitisAdjusted OR (95% CI) |
| Age18-2930-4950-65>65 | 0.45 (0.32 – 0.62)0.69 (0.53 – 0.90)0.67 (0.50 – 0.89)Reference |
| Academic Site of Care | 0.54 (0.45 – 0.65) |
| Female Sex | 0.91 (0.75 – 1.09) |
| RaceWhiteNon-White | 0.90 (0.68 – 1.20)Reference |

All variables included in multivariable analysis are depicted above.

Supplementary Table 6. Multivariable analysis evaluating odds of combination therapy with an anti-tumor necrosis factor alpha use among patients with Crohn’s disease and ulcerative colitis in the TARGET-IBD cohort

|  |  |  |
| --- | --- | --- |
|  | Crohn’s DiseaseAdjusted OR (95% CI) | Ulcerative ColitisAdjusted OR (95% CI) |
| Age18-2930-4950-65>65 | 1.30 (0.74 – 2.28)1.67 (0.99 – 2.81)1.22 (0.69 – 2.15)Reference | 1.58 (0.70 – 3.55)1.70 (0.82 – 3.50)2.21 (1.06 – 4.60)Reference |
| Academic Site of Care | 1.06 (0.78 – 1.43) | 1.74 (1.13 – 2.67) |
| Female Sex | 1.22 (0.92 – 1.62) | 1.14 (0.76 – 1.73) |
| RaceWhiteNon-White | 0.69 (0.47 – 1.03)Reference | 1.08 (0.57 – 2.04)Reference |

All variables included in multivariable analysis are depicted above.

Odds Ratio (OR)

Supplementary Table 7. Patient-reported disease activity according to age and drug class, among UC and CD patients

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Ulcerative Colitis | Crohn’s Disease |
| Age | 18-65 | >65 | 18-65 | >65 |
| Biologic drug |  |  |  |  |
|  | Well-controlled | 76 | 10 | 130 | 13 |
|  | Not well-controlled | 112 | 8 | 310 | 19 |
|  | *p-value* | 0.21 | 0.19 |
| non-Biologic drug |  |  |  |  |
|  | Well-controlled | 72 | 25 | 65 | 14 |
|  | Not well-controlled | 117 | 26 | 125 | 24 |
|  | *p-value* | 0.16 | 0.76 |
| *\*MH test for heterogeneity* Note: Calculate the p-value separately by drug class and disease (4 p-values) |

Well-controlled: MIBDI = “Rarely active” disease or “I was well in the past 6 months”

Not well-controlled: MIBDI = “Constantly”, “Often”, “Sometimes”, or “Occasionally” active disease