**Supplementary Material**

**Supplemental Table 1. Follow-up Time for Canagliflozin and Comparators in Propensity-score Matched Cohorts**

|  |  |  | Canagliflozin | | | | | | Comparator | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Time-at-risk | Comparator | Database | Mean (SD), days | Min | P25 | Med | P75 | Max | Mean (SD), days | Min | P25 | Med | P75 | Max |
| On-treatment | GLP-1 receptor agonists | CCAE | 201.6 (209.1) | 2 | 59 | 123 | 262 | 1627 | 184.9 (197.4) | 2 | 59 | 117 | 236 | 1667 |
| MDCR | 195.9 (214.8) | 2 | 59 | 119 | 241 | 1663 | 199.9 (224.3) | 2 | 59 | 119 | 247 | 1635 |
| Optum | 184.9 (203.4) | 2 | 60 | 115 | 225 | 1592 | 166.7 (186.4) | 2 | 59 | 103 | 201 | 1632 |
| DPP-4 inhibitors | CCAE | 221.6 (228.2) | 2 | 59 | 136 | 293 | 1624 | 213.9 (239.7) | 2 | 59 | 119 | 274 | 1667 |
| MDCR | 219.3 (239.0) | 2 | 59 | 120 | 277 | 1663 | 251.1 (282.8) | 2 | 59 | 132 | 323 | 1660 |
| Optum | 204.9 (220.9) | 2 | 60 | 120 | 256 | 1592 | 203.2 (233.6) | 2 | 60 | 120 | 247 | 1636 |
| Sulfonylureas | CCAE | 224.3 (230.9) | 2 | 59 | 138 | 295 | 1624 | 236.1 (258.7) | 2 | 59 | 132 | 306 | 1667 |
| MDCR | 220.2 (239.2) | 2 | 59 | 121 | 278 | 1663 | 285.4 (305.5) | 2 | 65 | 162 | 390 | 1666 |
| Optum | 206.7 (221.8) | 2 | 60 | 121 | 260 | 1592 | 252.5 (281.8) | 2 | 60 | 138 | 324 | 1636 |
| TZD | CCAE | 207.0 (214.3) | 2 | 59 | 128 | 268 | 1627 | 180.3 (213.2) | 2 | 51 | 106 | 225 | 1659 |
| MDCR | 211.4 (235.1) | 2 | 59 | 119 | 263 | 1663 | 206.2 (240.9) | 2 | 59 | 119 | 259 | 1641 |
| Optum | 195.3 (211.5) | 2 | 60 | 120 | 240 | 1592 | 195.8 (227.9) | 2 | 60 | 119 | 239 | 1636 |
| Insulin | CCAE | 202.5 (213.6) | 2 | 59 | 122 | 260 | 1627 | 171.3 (208.8) | 2 | 59 | 95 | 200 | 1660 |
| MDCR | 206.5 (229.6) | 2 | 59 | 119 | 254 | 1663 | 195.1 (238.6) | 2 | 59 | 112 | 229 | 1660 |
| Optum | 190.1 (210.0) | 2 | 60 | 118 | 231 | 1592 | 179.2 (221.0) | 2 | 60 | 100 | 207 | 1635 |
| Other AHAs† | CCAE | 208.7 (223.8) | 2 | 59 | 123 | 267 | 1546 | 143.0 (165.0) | 2 | 59 | 86 | 167 | 1597 |
| MDCR | 198.7 (222.8) | 2 | 59 | 119 | 247 | 1613 | 165.7 (192.4) | 2 | 59 | 97 | 195.5 | 1524 |
| Optum | 185.3 (203.0) | 2 | 60 | 115 | 226 | 1503 | 162.0 (196.9) | 2 | 60 | 92 | 184 | 1620 |
| ITT | GLP-1 receptor agonists | CCAE | 587.2 (408.6) | 2 | 236 | 519 | 888 | 1665 | 480.9 (390.7) | 2 | 168 | 377 | 705 | 1667 |
| MDCR | 586.7 (412.1) | 2 | 232 | 510 | 896 | 1663 | 544.1 (419.7) | 2 | 196 | 442 | 821 | 1667 |
| Optum | 500.2 (392.4) | 2 | 178 | 398 | 765 | 1634 | 455.0 (397.4) | 2 | 142 | 325 | 675 | 1636 |
| DPP-4 inhibitors | CCAE | 611.2 (407.6) | 2 | 250 | 564 | 923 | 1664 | 537.4 (416.4) | 2 | 194 | 436 | 809 | 1667 |
| MDCR | 624.1 (410.3) | 2 | 263 | 576 | 943 | 1663 | 601.0 (438.4) | 2 | 223 | 516 | 928 | 1667 |
| Optum | 530.3 (390.4) | 2 | 199 | 450 | 820 | 1629 | 562.0 (442.9) | 2 | 187 | 450 | 879 | 1636 |
| Sulfonylureas | CCAE | 607.4 (407.4) | 2 | 248 | 558 | 920 | 1658 | 536.4 (417.7) | 2 | 193 | 432 | 809 | 1667 |
| MDCR | 619.8 (412.4) | 2 | 256 | 567 | 939 | 1663 | 594.4 (439.7) | 2 | 219 | 502 | 925 | 1667 |
| Optum | 526.0 (386.6) | 2 | 198 | 446 | 814 | 1629 | 543.4 (430.1) | 2 | 185 | 435 | 838 | 1636 |
| TZD | CCAE | 543.4 (401.3) | 2 | 208 | 457 | 829 | 1656 | 502.3 (397.3) | 2 | 182 | 397 | 747 | 1667 |
| MDCR | 590.0 (413.5) | 2 | 232 | 516 | 904 | 1663 | 550.9 (422.6) | 2 | 201 | 446 | 838 | 1667 |
| Optum | 506.8 (384.6) | 2 | 185 | 417 | 780 | 1627 | 518.5 (407.4) | 2 | 178 | 418 | 796 | 1636 |
| Insulin | CCAE | 603.2 (419.6) | 2 | 236 | 535 | 924 | 1665 | 531.8 (420.8) | 2 | 187 | 423 | 800 | 1667 |
| MDCR | 629.4 (419.7) | 2 | 256 | 570 | 963 | 1663 | 572.7 (442.1) | 2 | 196 | 469 | 900 | 1667 |
| Optum | 536.2 (399.8) | 2 | 196 | 450 | 835 | 1634 | 532.9 (434.8) | 2 | 173 | 410 | 829 | 1636 |
| Other AHAs† | CCAE | 582.0 (428.3) | 2 | 211 | 480 | 902 | 1659 | 546.9 (431.1) | 2 | 190 | 434 | 827 | 1667 |
| MDCR | 622.8 (428.3) | 2 | 247 | 547 | 956 | 1645 | 584.5 (435.5) | 2 | 204 | 500 | 911 | 1667 |
| Optum | 569.5 (421.7) | 2 | 208 | 481 | 871 | 1627 | 568.4 (437.1) | 2 | 191 | 473 | 878 | 1636 |

SD, standard deviation; P25, 25th percentile; P75, 75th percentile; GLP-1, glucagon-like peptide-1; CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; DPP-4, dipeptidyl peptidase-4; TZD, thiazolidinediones; AHAs, antihyperglycemic agents; ITT, intent-to-treat.

†Excluding metformin.

**Supplemental Table 2. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of GLP-1 Receptor Agonists Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | GLP-1 receptor agonist, % | Std d | Canagliflozin, % | GLP-1 receptor agonist, % | Std d | Canagliflozin, % | GLP-1 receptor agonist, % | Std d | Canagliflozin, % | GLP-1 receptor agonist, % | Std d | Canagliflozin, % | GLP-1 receptor agonist, % | Std d | Canagliflozin, % | GLP-1 receptor agonist, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.1 | -0.02 | 0.0 | 0.1 | -0.01 |  |  |  |  |  |  | 0.0 | 0.1 | -0.03 | 0.0 | 0.1 | -0.02 |
| 20-24 | 0.2 | 0.5 | -0.04 | 0.3 | 0.3 | -0.01 |  |  |  |  |  |  | 0.1 | 0.2 | -0.03 | 0.1 | 0.2 | -0.02 |
| 25-29 | 0.5 | 0.9 | -0.05 | 0.6 | 0.7 | 0.00 |  |  |  |  |  |  | 0.4 | 0.6 | -0.03 | 0.5 | 0.6 | -0.01 |
| 30-34 | 1.6 | 2.6 | -0.07 | 1.9 | 2.0 | 0.00 |  |  |  |  |  |  | 1.5 | 1.9 | -0.03 | 1.6 | 1.7 | -0.01 |
| 35-39 | 4.1 | 5.7 | -0.07 | 4.9 | 4.8 | 0.00 |  |  |  |  |  |  | 3.7 | 4.0 | -0.02 | 3.9 | 3.9 | 0.00 |
| 40-44 | 8.5 | 10.2 | -0.06 | 9.4 | 9.4 | 0.00 |  |  |  |  |  |  | 7.1 | 7.1 | 0.00 | 7.1 | 7.3 | 0.00 |
| 45-49 | 14.4 | 15.1 | -0.02 | 14.9 | 14.8 | 0.00 | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.01 | 11.1 | 11.0 | 0.00 | 11.2 | 11.3 | 0.00 |
| 50-54 | 20.7 | 19.8 | 0.02 | 20.3 | 20.4 | 0.00 | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | -0.01 | 15.2 | 14.0 | 0.03 | 14.6 | 14.6 | 0.00 |
| 55-59 | 24.3 | 22.4 | 0.05 | 23.5 | 23.4 | 0.00 | 1.1 | 1.1 | 0.00 | 1.3 | 1.1 | 0.02 | 17.8 | 15.6 | 0.06 | 16.5 | 16.5 | 0.00 |
| 60-64 | 23.7 | 21.0 | 0.06 | 22.3 | 22.3 | 0.00 | 2.7 | 2.9 | -0.02 | 2.8 | 3.1 | -0.02 | 15.7 | 14.5 | 0.03 | 15.1 | 14.9 | 0.01 |
| 65-69 | 1.9 | 1.8 | 0.01 | 1.9 | 1.8 | 0.00 | 40.3 | 42.2 | -0.04 | 42.1 | 42.2 | 0.00 | 12.7 | 13.9 | -0.04 | 13.3 | 13.4 | 0.00 |
| 70-74 |  |  |  |  |  |  | 31.7 | 30.5 | 0.03 | 30.1 | 30.8 | -0.01 | 8.8 | 10.1 | -0.04 | 9.5 | 9.4 | 0.00 |
| 75-79 |  |  |  |  |  |  | 14.8 | 14.3 | 0.01 | 14.4 | 14.1 | 0.01 | 3.8 | 4.4 | -0.03 | 4.2 | 4.0 | 0.01 |
| 80-84 |  |  |  |  |  |  | 6.1 | 6.1 | 0.00 | 6.2 | 6.0 | 0.01 | 1.5 | 1.8 | -0.03 | 1.6 | 1.5 | 0.01 |
| 85-89 |  |  |  |  |  |  | 2.3 | 2.0 | 0.02 | 2.1 | 1.8 | 0.02 | 0.5 | 0.6 | -0.01 | 0.6 | 0.5 | 0.02 |
| 90-94 |  |  |  |  |  |  | 0.6 | 0.4 | 0.03 | 0.6 | 0.4 | 0.04 | 0.0 | 0.1 | -0.02 | 0.0 | 0.0 | 0.01 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.1 | -0.01 | 0.1 | 0.1 | 0.00 |  |  |  |  |  |  |
| Female | 44.9 | 54.5 | -0.19 | 49.9 | 49.6 | 0.01 | 42.3 | 47.0 | -0.09 | 46.0 | 45.5 | 0.01 | 43.5 | 52.9 | -0.19 | 49.2 | 48.7 | 0.01 |
| Prior acute pancreatitis | 0.9 | 0.5 | 0.04 | 0.6 | 0.6 | 0.01 | 0.8 | 0.6 | 0.03 | 0.8 | 0.6 | 0.03 | 0.9 | 0.4 | 0.05 | 0.6 | 0.5 | 0.01 |
| Prior antidiabetic medication |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 0.6 | 0.04 | 0.8 | 0.6 | 0.02 | 1.4 | 1.2 | 0.02 | 1.4 | 1.1 | 0.02 | 1.0 | 0.7 | 0.03 | 1.0 | 0.8 | 0.02 |
| Albiglutide | 0.4 |  |  | 0.6 |  |  | 0.2 |  |  | 0.2 |  |  | 0.9 |  |  | 1.1 |  |  |
| Alogliptin | 0.7 | 0.5 | 0.02 | 0.6 | 0.6 | 0.00 | 0.5 | 0.3 | 0.03 | 0.5 | 0.3 | 0.02 | 1.5 | 1.2 | 0.02 | 1.3 | 1.4 | -0.01 |
| Chlorpropamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 |  |  | 0.0 |  |  | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 |
| Dapagliflozin | 3.9 | 6.2 | -0.10 | 4.7 | 4.2 | 0.02 | 2.5 | 2.3 | 0.01 | 2.5 | 2.4 | 0.01 | 4.5 | 2.4 | 0.12 | 3.2 | 2.9 | 0.02 |
| Dulaglutide | 1.3 |  |  | 1.8 |  |  | 0.8 |  |  | 1.3 |  |  | 1.0 |  |  | 1.3 |  |  |
| Empagliflozin | 1.0 | 3.5 | -0.17 | 1.5 | 1.3 | 0.01 | 0.6 | 1.9 | -0.11 | 0.9 | 1.2 | -0.02 | 1.0 | 3.0 | -0.14 | 1.6 | 1.4 | 0.02 |
| Exenatide | 13.0 |  |  | 13.1 |  |  | 9.5 |  |  | 10.6 |  |  | 9.7 |  |  | 10.2 |  |  |
| Glimepiride | 24.8 | 18.5 | 0.16 | 22.4 | 20.7 | 0.04 | 28.8 | 25.8 | 0.07 | 27.8 | 26.6 | 0.03 | 24.0 | 20.6 | 0.08 | 22.6 | 21.7 | 0.02 |
| Glipizide | 20.4 | 18.9 | 0.04 | 20.7 | 19.6 | 0.03 | 25.0 | 25.5 | -0.01 | 25.6 | 25.0 | 0.01 | 26.2 | 24.7 | 0.03 | 26.3 | 25.4 | 0.02 |
| Glyburide | 13.0 | 10.2 | 0.09 | 12.3 | 11.4 | 0.03 | 16.2 | 14.3 | 0.05 | 15.1 | 14.8 | 0.01 | 14.4 | 11.6 | 0.08 | 13.5 | 12.5 | 0.03 |
| Insulin degludec | 0.2 | 1.1 | -0.11 | 0.4 | 0.3 | 0.00 | 0.1 | 0.6 | -0.07 | 0.2 | 0.3 | -0.01 | 0.1 | 0.3 | -0.06 | 0.1 | 0.2 | -0.02 |
| Insulin detemir | 7.9 | 7.3 | 0.02 | 8.1 | 7.3 | 0.03 | 6.5 | 8.0 | -0.06 | 7.7 | 7.0 | 0.03 | 8.3 | 10.0 | -0.06 | 9.6 | 9.0 | 0.02 |
| Insulin glargine | 16.6 | 17.9 | -0.04 | 17.8 | 17.0 | 0.02 | 14.1 | 20.9 | -0.18 | 17.8 | 16.9 | 0.03 | 16.5 | 20.9 | -0.11 | 19.4 | 18.3 | 0.03 |
| Insulin lispro | 5.3 | 5.1 | 0.01 | 5.4 | 4.9 | 0.02 | 4.3 | 6.2 | -0.09 | 5.3 | 4.9 | 0.02 | 7.1 | 10.2 | -0.11 | 8.6 | 8.1 | 0.02 |
| Insulin, aspart, human | 7.5 | 8.0 | -0.02 | 8.0 | 7.5 | 0.02 | 6.2 | 9.2 | -0.11 | 8.0 | 7.2 | 0.03 | 5.7 | 6.9 | -0.05 | 6.6 | 6.1 | 0.02 |
| Insulin, glulisine, human | 1.0 | 0.6 | 0.04 | 0.9 | 0.7 | 0.02 | 0.6 | 0.7 | -0.01 | 0.8 | 0.6 | 0.02 | 0.8 | 0.7 | 0.02 | 0.8 | 0.7 | 0.02 |
| Linagliptin | 5.0 | 4.7 | 0.02 | 4.7 | 4.4 | 0.01 | 6.0 | 6.6 | -0.02 | 6.0 | 6.3 | -0.01 | 7.6 | 7.1 | 0.02 | 7.1 | 7.2 | 0.00 |
| Liraglutide | 16.7 |  |  | 17.1 |  |  | 13.0 |  |  | 14.0 |  |  | 14.3 |  |  | 15.1 |  |  |
| Lixisenatide | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |
| Metformin | 90.0 | 86.4 | 0.11 | 88.8 | 88.6 | 0.00 | 86.2 | 81.0 | 0.14 | 83.4 | 84.0 | -0.02 | 88.4 | 82.8 | 0.16 | 86.5 | 86.7 | -0.01 |
| Miglitol | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.02 | 0.2 | 0.1 | 0.05 | 0.3 | 0.1 | 0.05 | 0.1 | 0.0 | 0.01 | 0.1 | 0.0 | 0.01 |
| Nateglinide | 1.4 | 0.9 | 0.06 | 1.3 | 1.0 | 0.03 | 2.5 | 2.4 | 0.01 | 2.4 | 2.3 | 0.01 | 1.2 | 0.9 | 0.03 | 1.1 | 0.9 | 0.02 |
| Pioglitazone | 20.7 | 14.5 | 0.17 | 19.0 | 16.6 | 0.06 | 24.8 | 21.7 | 0.07 | 23.5 | 22.5 | 0.02 | 21.5 | 16.5 | 0.13 | 19.4 | 17.6 | 0.05 |
| Pramlintide | 0.4 | 0.2 | 0.04 | 0.5 | 0.2 | 0.04 | 0.4 | 0.4 | 0.01 | 0.6 | 0.3 | 0.04 | 0.3 | 0.2 | 0.03 | 0.3 | 0.1 | 0.04 |
| Regular insulin, human | 1.9 | 2.1 | -0.01 | 2.2 | 2.0 | 0.02 | 1.5 | 2.1 | -0.05 | 2.0 | 1.6 | 0.02 | 2.5 | 3.3 | -0.05 | 2.9 | 2.8 | 0.01 |
| Repaglinide | 1.5 | 0.9 | 0.06 | 1.4 | 1.0 | 0.03 | 2.8 | 2.5 | 0.02 | 2.6 | 2.5 | 0.00 | 1.4 | 1.1 | 0.03 | 1.2 | 1.1 | 0.01 |
| Rosiglitazone | 5.2 | 2.7 | 0.13 | 4.7 | 3.3 | 0.07 | 5.4 | 4.4 | 0.05 | 5.0 | 4.6 | 0.02 | 5.2 | 3.2 | 0.09 | 4.7 | 3.5 | 0.06 |
| Saxagliptin | 10.3 | 6.7 | 0.13 | 8.9 | 8.0 | 0.03 | 9.6 | 8.2 | 0.05 | 8.9 | 8.8 | 0.01 | 14.2 | 10.6 | 0.11 | 12.1 | 11.8 | 0.01 |
| Sitagliptin | 35.7 | 27.5 | 0.18 | 32.4 | 30.4 | 0.04 | 42.7 | 37.1 | 0.11 | 39.6 | 37.9 | 0.04 | 29.4 | 22.6 | 0.16 | 26.4 | 24.5 | 0.04 |
| Tolazamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 |  |  |  |  |  |  | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |
| Tolbutamide | 0.0 | 0.0 | 0.00 |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |
| General medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 30.8 | -0.07 | 28.6 | 28.8 | 0.00 | 23.8 | 24.8 | -0.02 | 24.1 | 24.0 | 0.00 | 26.5 | 29.4 | -0.07 | 27.9 | 27.8 | 0.00 |
| Attention deficit hyperactivity disorder | 1.0 | 1.5 | -0.05 | 1.2 | 1.2 | 0.00 | 0.2 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 | 1.0 | 1.2 | -0.02 | 1.0 | 1.1 | -0.01 |
| Chronic liver disease | 4.3 | 3.4 | 0.05 | 4.0 | 4.2 | -0.01 | 3.1 | 2.9 | 0.01 | 3.0 | 3.0 | 0.00 | 4.2 | 3.7 | 0.03 | 4.0 | 4.0 | 0.00 |
| Chronic obstructive lung disease | 2.4 | 2.9 | -0.03 | 2.6 | 2.5 | 0.00 | 9.6 | 11.3 | -0.05 | 10.4 | 10.4 | 0.00 | 5.3 | 7.6 | -0.10 | 6.3 | 6.1 | 0.01 |
| Crohn’s disease | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 | 0.3 | 0.4 | -0.02 | 0.4 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 |
| Dementia | 0.2 | 0.2 | 0.00 | 0.2 | 0.2 | 0.01 | 1.5 | 1.8 | -0.03 | 1.6 | 1.6 | 0.00 | 0.6 | 1.0 | -0.04 | 0.7 | 0.8 | 0.00 |
| Depressive disorder | 10.0 | 14.0 | -0.12 | 11.7 | 11.6 | 0.00 | 8.2 | 11.3 | -0.10 | 9.9 | 9.9 | 0.00 | 12.4 | 17.6 | -0.15 | 14.9 | 14.9 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 13.4 | -0.06 | 11.8 | 11.9 | 0.00 | 14.8 | 15.3 | -0.02 | 15.5 | 14.7 | 0.02 | 14.9 | 17.8 | -0.08 | 16.1 | 16.1 | 0.00 |
| Gastrointestinal hemorrhage | 1.5 | 1.7 | -0.02 | 1.6 | 1.6 | 0.00 | 2.5 | 2.9 | -0.02 | 2.7 | 2.7 | 0.00 | 1.8 | 2.2 | -0.03 | 1.9 | 2.0 | 0.00 |
| Human immunodeficiency virus infection | 0.2 | 0.2 | -0.01 | 0.2 | 0.2 | -0.01 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | -0.02 | 0.2 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 |
| Hyperlipidemia | 75.3 | 72.3 | 0.07 | 73.5 | 73.7 | -0.01 | 76.7 | 77.2 | -0.01 | 76.8 | 76.1 | 0.02 | 81.3 | 79.5 | 0.05 | 79.7 | 80.1 | -0.01 |
| Hypertensive disorder | 72.8 | 72.5 | 0.01 | 72.2 | 72.5 | -0.01 | 82.8 | 84.0 | -0.03 | 83.1 | 82.9 | 0.01 | 78.5 | 80.2 | -0.04 | 79.3 | 79.4 | 0.00 |
| Lesion of liver | 0.6 | 0.6 | 0.00 | 0.6 | 0.6 | 0.00 | 0.9 | 1.0 | 0.00 | 1.0 | 0.9 | 0.02 | 0.8 | 0.9 | -0.01 | 0.9 | 0.8 | 0.01 |
| Obesity | 22.5 | 33.9 | -0.26 | 27.2 | 26.8 | 0.01 | 17.4 | 25.9 | -0.21 | 22.3 | 21.4 | 0.02 | 28.2 | 37.8 | -0.21 | 33.1 | 32.6 | 0.01 |
| Osteoarthritis | 16.8 | 19.7 | -0.07 | 17.9 | 17.9 | 0.00 | 30.3 | 33.8 | -0.07 | 32.4 | 31.6 | 0.02 | 21.1 | 26.0 | -0.12 | 23.2 | 23.1 | 0.00 |
| Pneumonia | 1.9 | 2.4 | -0.03 | 2.0 | 2.1 | 0.00 | 3.3 | 4.3 | -0.05 | 3.7 | 3.9 | -0.01 | 2.3 | 3.4 | -0.07 | 2.7 | 2.8 | -0.01 |
| Psoriasis | 1.4 | 1.6 | -0.01 | 1.5 | 1.5 | 0.00 | 1.8 | 1.7 | 0.01 | 1.9 | 1.6 | 0.02 | 1.5 | 1.9 | -0.03 | 1.6 | 1.7 | -0.01 |
| Renal impairment | 3.6 | 6.1 | -0.12 | 4.4 | 4.4 | 0.00 | 10.7 | 21.5 | -0.30 | 15.3 | 14.5 | 0.02 | 8.7 | 15.5 | -0.21 | 11.1 | 10.8 | 0.01 |
| Rheumatoid arthritis | 1.0 | 1.2 | -0.02 | 1.1 | 1.1 | 0.00 | 1.6 | 1.9 | -0.03 | 1.8 | 1.7 | 0.01 | 1.3 | 1.8 | -0.04 | 1.5 | 1.5 | 0.00 |
| Schizophrenia | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.00 | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.01 |
| Ulcerative colitis | 0.3 | 0.3 | 0.01 | 0.3 | 0.3 | 0.01 | 0.5 | 0.4 | 0.00 | 0.5 | 0.5 | 0.00 | 0.3 | 0.4 | -0.01 | 0.3 | 0.4 | 0.00 |
| Urinary tract infectious disease | 6.8 | 8.4 | -0.06 | 7.5 | 7.6 | 0.00 | 8.6 | 10.9 | -0.08 | 9.7 | 9.6 | 0.00 | 8.5 | 11.4 | -0.10 | 9.7 | 9.7 | 0.00 |
| Viral hepatitis C | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 | 0.3 | 0.4 | -0.02 | 0.3 | 0.3 | -0.01 | 0.6 | 0.7 | -0.01 | 0.6 | 0.6 | -0.01 |
| Visual system disorder | 28.0 | 27.8 | 0.00 | 27.2 | 27.4 | 0.00 | 55.5 | 55.9 | -0.01 | 55.0 | 54.9 | 0.00 | 36.8 | 38.8 | -0.04 | 37.3 | 37.6 | -0.01 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 2.2 | -0.02 | 2.0 | 2.0 | 0.00 | 9.3 | 10.7 | -0.05 | 10.1 | 9.6 | 0.02 | 3.5 | 4.7 | -0.06 | 4.0 | 3.9 | 0.01 |
| Cerebrovascular disease | 1.6 | 1.8 | -0.01 | 1.8 | 1.7 | 0.01 | 4.8 | 5.4 | -0.03 | 5.3 | 4.9 | 0.02 | 2.6 | 3.4 | -0.05 | 2.9 | 2.9 | 0.00 |
| Coronary arteriosclerosis | 8.1 | 8.0 | 0.00 | 8.0 | 8.0 | 0.00 | 25.2 | 26.8 | -0.04 | 25.8 | 25.8 | 0.00 | 11.8 | 14.5 | -0.08 | 12.9 | 12.8 | 0.00 |
| Heart disease | 17.5 | 18.2 | -0.02 | 17.6 | 17.7 | 0.00 | 42.6 | 45.7 | -0.06 | 44.2 | 43.4 | 0.01 | 23.5 | 28.6 | -0.12 | 25.6 | 25.5 | 0.00 |
| Heart failure | 1.9 | 2.7 | -0.05 | 2.2 | 2.2 | 0.00 | 6.8 | 9.6 | -0.10 | 8.4 | 8.0 | 0.02 | 3.9 | 6.7 | -0.12 | 5.0 | 4.9 | 0.00 |
| Ischemic heart disease | 4.0 | 4.3 | -0.01 | 4.1 | 4.1 | 0.00 | 10.2 | 11.4 | -0.04 | 11.1 | 10.9 | 0.01 | 6.2 | 7.8 | -0.06 | 6.8 | 6.8 | 0.00 |
| Peripheral vascular disease | 8.7 | 9.6 | -0.03 | 8.8 | 8.9 | 0.00 | 24.5 | 28.5 | -0.09 | 25.8 | 26.3 | -0.01 | 14.1 | 17.5 | -0.09 | 15.6 | 15.5 | 0.00 |
| Pulmonary embolism | 0.4 | 0.5 | -0.03 | 0.4 | 0.4 | 0.00 | 0.7 | 1.1 | -0.04 | 0.8 | 0.9 | -0.01 | 0.5 | 0.7 | -0.03 | 0.6 | 0.6 | 0.00 |
| Venous thrombosis | 1.3 | 1.6 | -0.02 | 1.4 | 1.4 | 0.00 | 2.6 | 3.3 | -0.05 | 2.8 | 2.9 | -0.01 | 1.7 | 2.2 | -0.04 | 1.8 | 1.9 | -0.01 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 0.6 | 0.01 | 0.7 | 0.6 | 0.00 | 1.3 | 1.5 | -0.02 | 1.2 | 1.5 | -0.02 | 0.8 | 0.9 | -0.01 | 0.9 | 0.8 | 0.01 |
| Malignant lymphoma | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 | 0.6 | 0.7 | -0.01 | 0.6 | 0.7 | 0.00 | 0.4 | 0.4 | -0.01 | 0.4 | 0.4 | 0.00 |
| Malignant neoplasm of anorectum | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.00 | 0.2 | 0.3 | -0.02 | 0.2 | 0.3 | -0.02 | 0.2 | 0.1 | 0.01 | 0.2 | 0.1 | 0.01 |
| Malignant neoplastic disease | 5.3 | 5.2 | 0.00 | 5.1 | 5.2 | 0.00 | 15.7 | 15.6 | 0.00 | 15.2 | 15.2 | 0.00 | 7.1 | 7.9 | -0.03 | 7.4 | 7.4 | 0.00 |
| Malignant tumor of breast | 1.1 | 1.1 | 0.00 | 1.1 | 1.1 | 0.00 | 2.3 | 2.5 | -0.01 | 2.4 | 2.5 | 0.00 | 1.3 | 1.5 | -0.02 | 1.4 | 1.4 | 0.00 |
| Malignant tumor of colon | 0.3 | 0.2 | 0.01 | 0.3 | 0.2 | 0.00 | 0.7 | 0.8 | -0.01 | 0.7 | 0.8 | 0.00 | 0.4 | 0.3 | 0.01 | 0.3 | 0.3 | 0.01 |
| Malignant tumor of lung | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.00 | 0.4 | 0.5 | -0.02 | 0.5 | 0.4 | 0.01 | 0.2 | 0.2 | -0.01 | 0.2 | 0.2 | 0.01 |
| Malignant tumor of urinary bladder | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | -0.01 | 0.9 | 1.1 | -0.02 | 1.0 | 1.0 | -0.01 | 0.2 | 0.3 | -0.02 | 0.2 | 0.3 | -0.01 |
| Primary malignant neoplasm of prostate | 0.5 | 0.3 | 0.03 | 0.4 | 0.4 | 0.00 | 3.1 | 2.5 | 0.04 | 2.7 | 2.8 | -0.01 | 0.8 | 0.7 | 0.02 | 0.7 | 0.7 | -0.01 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 68.5 | 0.07 | 70.3 | 70.6 | -0.01 | 79.1 | 79.6 | -0.01 | 78.9 | 79.1 | 0.00 | 71.7 | 71.2 | 0.01 | 71.5 | 71.6 | 0.00 |
| Antibacterials for systemic use | 57.9 | 61.2 | -0.07 | 59.0 | 59.0 | 0.00 | 61.0 | 62.4 | -0.03 | 61.6 | 61.3 | 0.01 | 55.6 | 59.4 | -0.08 | 57.9 | 57.4 | 0.01 |
| Antidepressants | 26.1 | 32.9 | -0.15 | 29.5 | 29.1 | 0.01 | 26.0 | 30.5 | -0.10 | 29.0 | 28.6 | 0.01 | 25.5 | 33.1 | -0.17 | 29.8 | 29.5 | 0.01 |
| Antiepileptics | 14.3 | 17.7 | -0.09 | 15.8 | 15.6 | 0.00 | 17.2 | 21.0 | -0.09 | 19.5 | 19.0 | 0.01 | 16.4 | 21.9 | -0.14 | 19.0 | 19.0 | 0.00 |
| Antiinflammatory and antirheumatic products | 31.2 | 34.0 | -0.06 | 32.0 | 32.1 | 0.00 | 28.0 | 29.0 | -0.02 | 29.3 | 28.8 | 0.01 | 28.7 | 30.7 | -0.04 | 30.0 | 29.7 | 0.01 |
| Antineoplastic agents | 1.9 | 2.0 | -0.01 | 1.9 | 1.9 | 0.00 | 3.6 | 3.8 | -0.01 | 3.7 | 3.5 | 0.01 | 2.2 | 2.6 | -0.03 | 2.4 | 2.3 | 0.00 |
| Antipsoriatics | 0.6 | 0.6 | -0.01 | 0.6 | 0.6 | 0.00 | 0.7 | 1.3 | -0.05 | 0.9 | 0.9 | 0.00 | 0.4 | 0.8 | -0.05 | 0.5 | 0.6 | -0.01 |
| Antithrombotic agents | 9.4 | 10.2 | -0.03 | 9.9 | 9.7 | 0.01 | 22.8 | 25.7 | -0.07 | 24.2 | 24.2 | 0.00 | 10.9 | 14.0 | -0.09 | 12.3 | 12.1 | 0.01 |
| Beta-blocking agents | 25.2 | 26.7 | -0.03 | 26.0 | 26.1 | 0.00 | 47.1 | 51.0 | -0.08 | 48.8 | 48.9 | 0.00 | 28.6 | 33.3 | -0.10 | 30.8 | 30.7 | 0.00 |
| Calcium channel blockers | 20.4 | 20.2 | 0.00 | 20.2 | 20.3 | 0.00 | 32.5 | 35.1 | -0.06 | 33.6 | 33.5 | 0.00 | 21.7 | 23.8 | -0.05 | 22.6 | 22.6 | 0.00 |
| Diuretics | 37.4 | 40.3 | -0.06 | 39.0 | 39.0 | 0.00 | 48.5 | 55.0 | -0.13 | 52.4 | 52.1 | 0.01 | 37.5 | 44.1 | -0.13 | 41.0 | 40.7 | 0.01 |
| Drugs for acid-related disorders | 24.6 | 25.8 | -0.03 | 24.9 | 24.8 | 0.00 | 32.5 | 33.9 | -0.03 | 33.1 | 33.0 | 0.00 | 23.7 | 27.2 | -0.08 | 25.1 | 25.2 | 0.00 |
| Drugs for obstructive airway diseases | 26.4 | 30.0 | -0.08 | 27.8 | 27.7 | 0.00 | 29.1 | 32.1 | -0.07 | 30.7 | 30.6 | 0.00 | 25.1 | 29.2 | -0.09 | 27.2 | 26.9 | 0.01 |
| Immunosuppressants | 2.3 | 2.7 | -0.03 | 2.4 | 2.4 | 0.00 | 3.2 | 3.7 | -0.03 | 3.6 | 3.3 | 0.02 | 2.2 | 2.9 | -0.05 | 2.5 | 2.5 | 0.00 |
| Lipid-modifying agents | 70.5 | 65.8 | 0.10 | 68.2 | 68.5 | -0.01 | 82.7 | 83.1 | -0.01 | 82.4 | 82.8 | -0.01 | 72.4 | 70.5 | 0.04 | 70.8 | 71.2 | -0.01 |
| Opioids | 21.0 | 24.1 | -0.07 | 22.3 | 22.3 | 0.00 | 23.5 | 26.5 | -0.07 | 25.3 | 24.7 | 0.01 | 18.9 | 24.5 | -0.14 | 21.6 | 21.4 | 0.01 |
| Psycholeptics | 22.3 | 25.8 | -0.08 | 23.9 | 23.6 | 0.01 | 24.8 | 27.1 | -0.05 | 26.6 | 25.9 | 0.02 | 19.9 | 24.1 | -0.10 | 22.0 | 21.8 | 0.01 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 4.4 | -0.06 | 3.6 | 3.6 | 0.00 | 1.6 | 1.9 | -0.02 | 1.7 | 1.7 | 0.00 | 2.5 | 2.8 | -0.02 | 2.7 | 2.6 | 0.01 |

GLP-1, glucagon-like peptide-1; PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

**Supplemental Table 3. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of DPP-4 Inhibitors Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | DPP-4 inhibitors, % | Std d | Canagliflozin, % | DPP-4 inhibitors, % | Std d | Canagliflozin, % | DPP-4 inhibitors, % | Std d | Canagliflozin, % | DPP-4 inhibitors, % | Std d | Canagliflozin, % | DPP-4 inhibitors, % | Std d | Canagliflozin, % | DPP-4 inhibitors, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |  |  |  |  |  |  | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 |
| 20-24 | 0.2 | 0.3 | -0.02 | 0.2 | 0.3 | -0.01 |  |  |  |  |  |  | 0.1 | 0.1 | -0.01 | 0.1 | 0.2 | -0.01 |
| 25-29 | 0.5 | 0.7 | -0.03 | 0.5 | 0.6 | 0.00 |  |  |  |  |  |  | 0.4 | 0.4 | 0.01 | 0.4 | 0.4 | 0.00 |
| 30-34 | 1.6 | 2.0 | -0.03 | 1.7 | 1.8 | 0.00 |  |  |  |  |  |  | 1.5 | 1.1 | 0.03 | 1.5 | 1.5 | 0.01 |
| 35-39 | 4.1 | 4.6 | -0.02 | 4.4 | 4.3 | 0.00 |  |  |  |  |  |  | 3.7 | 2.5 | 0.07 | 3.6 | 3.6 | 0.00 |
| 40-44 | 8.5 | 8.8 | -0.01 | 8.7 | 8.6 | 0.00 | 0.0 | 0.0 | 0.01 | 0.0 | 0.0 | 0.01 | 7.1 | 4.4 | 0.12 | 6.6 | 6.6 | 0.00 |
| 45-49 | 14.4 | 13.7 | 0.02 | 14.1 | 14.2 | 0.00 | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.03 | 11.1 | 6.9 | 0.15 | 10.0 | 10.3 | -0.01 |
| 50-54 | 20.7 | 19.3 | 0.04 | 20.3 | 20.2 | 0.00 | 0.3 | 0.1 | 0.03 | 0.3 | 0.2 | 0.02 | 15.2 | 9.8 | 0.17 | 13.9 | 14.2 | -0.01 |
| 55-59 | 24.3 | 23.4 | 0.02 | 24.1 | 23.9 | 0.00 | 1.1 | 0.5 | 0.06 | 1.0 | 0.8 | 0.02 | 17.8 | 11.6 | 0.18 | 16.4 | 16.7 | -0.01 |
| 60-64 | 23.7 | 24.8 | -0.03 | 23.9 | 24.0 | 0.00 | 2.7 | 1.7 | 0.06 | 2.5 | 2.3 | 0.01 | 15.7 | 12.1 | 0.10 | 15.2 | 15.5 | -0.01 |
| 65-69 | 1.9 | 2.4 | -0.03 | 2.0 | 2.1 | 0.00 | 40.3 | 27.3 | 0.28 | 37.9 | 38.8 | -0.02 | 12.7 | 15.9 | -0.09 | 14.2 | 13.9 | 0.01 |
| 70-74 |  |  |  |  |  |  | 31.7 | 27.0 | 0.10 | 32.0 | 32.1 | 0.00 | 8.8 | 14.6 | -0.18 | 10.5 | 10.2 | 0.01 |
| 75-79 |  |  |  |  |  |  | 14.8 | 19.1 | -0.12 | 15.9 | 15.6 | 0.01 | 3.8 | 9.8 | -0.24 | 4.8 | 4.5 | 0.01 |
| 80-84 |  |  |  |  |  |  | 6.1 | 13.2 | -0.24 | 6.9 | 6.6 | 0.01 | 1.5 | 6.3 | -0.25 | 1.9 | 1.7 | 0.01 |
| 85-89 |  |  |  |  |  |  | 2.3 | 7.6 | -0.25 | 2.7 | 2.6 | 0.01 | 0.5 | 4.1 | -0.24 | 0.7 | 0.6 | 0.01 |
| 90-94 |  |  |  |  |  |  | 0.6 | 2.8 | -0.17 | 0.7 | 0.8 | -0.01 | 0.0 | 0.3 | -0.07 | 0.0 | 0.1 | -0.02 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.5 | -0.09 | 0.1 | 0.2 | -0.04 |  |  |  |  |  |  |
| 100-104 |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| 105-109 |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| Female | 44.9 | 44.7 | 0.00 | 44.6 | 44.8 | 0.00 | 42.3 | 47.0 | -0.09 | 43.1 | 43.0 | 0.00 | 43.5 | 47.2 | -0.07 | 44.2 | 43.8 | 0.01 |
| Prior acute pancreatitis | 0.9 | 0.7 | 0.02 | 0.8 | 0.8 | 0.00 | 0.8 | 0.9 | 0.00 | 0.8 | 0.5 | 0.04 | 0.9 | 0.7 | 0.02 | 0.8 | 0.7 | 0.01 |
| Prior antidiabetic medication: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 0.3 | 0.07 | 0.6 | 0.5 | 0.02 | 1.4 | 0.6 | 0.08 | 1.3 | 0.9 | 0.04 | 1.0 | 0.6 | 0.05 | 0.9 | 0.6 | 0.03 |
| Albiglutide | 0.4 | 0.2 | 0.04 | 0.3 | 0.3 | -0.01 | 0.2 | 0.1 | 0.03 | 0.1 | 0.2 | -0.03 | 0.9 | 0.2 | 0.10 | 0.4 | 0.4 | -0.01 |
| Alogliptin | 0.7 |  |  | 0.7 |  |  | 0.5 |  |  | 0.5 |  |  | 1.5 |  |  | 1.4 |  |  |
| Chlorpropamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |
| Dapagliflozin | 3.9 | 2.4 | 0.09 | 3.3 | 2.7 | 0.03 | 2.5 | 0.5 | 0.16 | 1.7 | 1.4 | 0.02 | 4.5 | 0.7 | 0.24 | 2.1 | 1.5 | 0.04 |
| Dulaglutide | 1.3 | 0.6 | 0.07 | 0.8 | 0.9 | -0.01 | 0.8 | 0.2 | 0.09 | 0.5 | 0.6 | -0.01 | 1.0 | 0.3 | 0.09 | 0.6 | 0.6 | 0.00 |
| Empagliflozin | 1.0 | 1.2 | -0.02 | 1.2 | 0.7 | 0.04 | 0.6 | 0.3 | 0.04 | 0.7 | 0.4 | 0.04 | 1.0 | 0.8 | 0.02 | 1.2 | 0.7 | 0.05 |
| Exenatide | 13.0 | 3.2 | 0.37 | 7.0 | 5.2 | 0.08 | 9.5 | 2.1 | 0.32 | 6.4 | 4.6 | 0.08 | 9.7 | 2.2 | 0.32 | 5.4 | 3.8 | 0.08 |
| Glimepiride | 24.8 | 14.2 | 0.27 | 20.8 | 18.3 | 0.06 | 28.8 | 20.1 | 0.20 | 27.3 | 26.0 | 0.03 | 24.0 | 16.8 | 0.18 | 21.6 | 19.3 | 0.06 |
| Glipizide | 20.4 | 17.0 | 0.09 | 19.8 | 18.0 | 0.04 | 25.0 | 23.5 | 0.03 | 25.5 | 23.7 | 0.04 | 26.2 | 25.3 | 0.02 | 26.1 | 24.5 | 0.04 |
| Glyburide | 13.0 | 9.6 | 0.11 | 12.2 | 10.9 | 0.04 | 16.2 | 14.2 | 0.06 | 16.3 | 15.2 | 0.03 | 14.4 | 11.9 | 0.07 | 13.7 | 11.7 | 0.06 |
| Insulin degludec | 0.2 | 0.2 | 0.00 | 0.2 | 0.2 | -0.01 | 0.1 | 0.1 | 0.03 | 0.1 | 0.1 | 0.01 | 0.1 | 0.0 | 0.01 | 0.1 | 0.1 | 0.00 |
| Insulin detemir | 7.9 | 2.8 | 0.23 | 4.9 | 4.1 | 0.04 | 6.5 | 2.4 | 0.20 | 4.7 | 4.1 | 0.03 | 8.3 | 3.7 | 0.20 | 5.9 | 5.2 | 0.03 |
| Insulin glargine | 16.6 | 7.2 | 0.29 | 11.0 | 10.2 | 0.02 | 14.1 | 7.1 | 0.23 | 11.6 | 11.0 | 0.02 | 16.5 | 8.7 | 0.23 | 12.4 | 11.2 | 0.04 |
| Insulin lispro | 5.3 | 2.0 | 0.18 | 3.1 | 2.9 | 0.01 | 4.3 | 2.0 | 0.13 | 3.3 | 3.1 | 0.01 | 7.1 | 3.6 | 0.15 | 5.1 | 4.6 | 0.02 |
| Insulin, aspart, human | 7.5 | 2.9 | 0.21 | 4.5 | 4.1 | 0.02 | 6.2 | 3.0 | 0.15 | 4.7 | 4.4 | 0.01 | 5.7 | 2.9 | 0.14 | 4.1 | 3.6 | 0.03 |
| Insulin, glulisine, human | 1.0 | 0.2 | 0.10 | 0.4 | 0.4 | 0.01 | 0.6 | 0.2 | 0.08 | 0.4 | 0.3 | 0.03 | 0.8 | 0.2 | 0.09 | 0.5 | 0.3 | 0.02 |
| Linagliptin | 5.0 |  |  | 5.1 |  |  | 6.0 |  |  | 6.3 |  |  | 7.6 |  |  | 7.4 |  |  |
| Liraglutide | 16.7 | 3.7 | 0.44 | 7.8 | 6.4 | 0.06 | 13.0 | 2.0 | 0.43 | 6.1 | 5.5 | 0.03 | 14.3 | 2.8 | 0.42 | 6.7 | 5.4 | 0.05 |
| Lixisenatide | 0.0 | 0.0 | 0.01 | 0.0 | 0.0 | 0.01 | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |  |
| Metformin | 90.0 | 81.7 | 0.24 | 89.6 | 81.1 | 0.24 | 86.2 | 76.2 | 0.26 | 85.8 | 79.6 | 0.17 | 88.4 | 77.6 | 0.29 | 87.6 | 80.3 | 0.20 |
| Miglitol | 0.1 | 0.0 | 0.03 | 0.1 | 0.0 | 0.02 | 0.2 | 0.1 | 0.03 | 0.2 | 0.1 | 0.03 | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.01 |
| Nateglinide | 1.4 | 0.5 | 0.10 | 1.0 | 0.7 | 0.04 | 2.5 | 1.4 | 0.08 | 2.3 | 1.7 | 0.04 | 1.2 | 0.7 | 0.06 | 1.0 | 0.7 | 0.03 |
| Pioglitazone | 20.7 | 9.8 | 0.31 | 17.0 | 12.5 | 0.13 | 24.8 | 16.5 | 0.21 | 23.6 | 19.2 | 0.11 | 21.5 | 12.2 | 0.25 | 18.8 | 13.5 | 0.14 |
| Pramlintide | 0.4 | 0.1 | 0.07 | 0.2 | 0.1 | 0.03 | 0.4 | 0.1 | 0.07 | 0.3 | 0.2 | 0.03 | 0.3 | 0.1 | 0.06 | 0.2 | 0.1 | 0.02 |
| Regular insulin, human | 1.9 | 1.0 | 0.08 | 1.4 | 1.3 | 0.01 | 1.5 | 1.2 | 0.02 | 1.4 | 1.3 | 0.01 | 2.5 | 1.9 | 0.04 | 2.1 | 2.0 | 0.01 |
| Repaglinide | 1.5 | 0.6 | 0.10 | 1.1 | 0.8 | 0.03 | 2.8 | 1.5 | 0.09 | 2.7 | 1.8 | 0.06 | 1.4 | 0.7 | 0.07 | 1.1 | 0.8 | 0.03 |
| Rosiglitazone | 5.2 | 1.9 | 0.18 | 4.2 | 2.3 | 0.11 | 5.4 | 4.2 | 0.06 | 5.7 | 3.7 | 0.09 | 5.2 | 2.6 | 0.13 | 4.4 | 2.6 | 0.10 |
| Saxagliptin | 10.3 |  |  | 9.9 |  |  | 9.6 |  |  | 9.7 |  |  | 14.2 |  |  | 13.5 |  |  |
| Sitagliptin | 35.7 |  |  | 34.5 |  |  | 42.7 |  |  | 43.5 |  |  | 29.4 |  |  | 28.8 |  |  |
| Tolazamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | -0.02 | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |
| Tolbutamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |
| Medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 27.2 | 0.01 | 27.2 | 27.3 | 0.00 | 23.8 | 24.5 | -0.02 | 23.5 | 24.0 | -0.01 | 26.5 | 26.2 | 0.01 | 25.8 | 26.0 | 0.00 |
| Attention deficit hyperactivity disorder | 1.0 | 0.8 | 0.01 | 0.9 | 0.9 | 0.00 | 0.2 | 0.2 | 0.01 | 0.2 | 0.2 | -0.01 | 1.0 | 0.6 | 0.04 | 0.8 | 0.8 | 0.00 |
| Chronic liver disease | 4.3 | 3.7 | 0.03 | 4.0 | 4.0 | 0.00 | 3.1 | 2.4 | 0.05 | 2.9 | 2.7 | 0.01 | 4.2 | 3.6 | 0.03 | 3.8 | 3.9 | 0.00 |
| Chronic obstructive lung disease | 2.4 | 3.0 | -0.04 | 2.5 | 2.5 | 0.00 | 9.6 | 13.0 | -0.11 | 10.0 | 9.7 | 0.01 | 5.3 | 9.8 | -0.17 | 5.9 | 5.9 | 0.00 |
| Crohn’s disease | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 | 0.3 | 0.4 | -0.02 | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 |
| Dementia | 0.2 | 0.2 | 0.00 | 0.2 | 0.2 | 0.00 | 1.5 | 5.1 | -0.20 | 1.7 | 1.7 | 0.00 | 0.6 | 3.1 | -0.18 | 0.8 | 0.7 | 0.00 |
| Depressive disorder | 10.0 | 9.9 | 0.00 | 9.6 | 9.8 | 0.00 | 8.2 | 9.9 | -0.06 | 8.3 | 8.6 | -0.01 | 12.4 | 13.6 | -0.04 | 12.2 | 12.2 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 11.7 | -0.01 | 11.2 | 11.3 | 0.00 | 14.8 | 15.3 | -0.01 | 14.8 | 14.6 | 0.01 | 14.9 | 17.2 | -0.06 | 15.1 | 15.1 | 0.00 |
| Gastrointestinal hemorrhage | 1.5 | 1.8 | -0.02 | 1.5 | 1.5 | 0.00 | 2.5 | 3.9 | -0.08 | 2.6 | 2.6 | 0.00 | 1.8 | 2.7 | -0.06 | 1.9 | 1.8 | 0.00 |
| Human immunodeficiency virus infection | 0.2 | 0.3 | -0.03 | 0.2 | 0.2 | -0.01 | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | -0.02 | 0.2 | 0.3 | -0.01 | 0.2 | 0.3 | -0.01 |
| Hyperlipidemia | 75.3 | 69.3 | 0.13 | 72.8 | 73.1 | -0.01 | 76.7 | 72.2 | 0.11 | 76.0 | 76.4 | -0.01 | 81.3 | 79.2 | 0.05 | 79.7 | 79.5 | 0.00 |
| Hypertensive disorder | 72.8 | 69.6 | 0.07 | 71.1 | 71.6 | -0.01 | 82.8 | 82.9 | 0.00 | 82.4 | 82.9 | -0.01 | 78.5 | 80.5 | -0.05 | 77.8 | 77.4 | 0.01 |
| Lesion of liver | 0.6 | 0.7 | -0.02 | 0.6 | 0.6 | 0.00 | 0.9 | 1.3 | -0.03 | 0.9 | 1.0 | -0.01 | 0.8 | 1.3 | -0.05 | 0.9 | 1.0 | -0.01 |
| Obesity | 22.5 | 20.7 | 0.04 | 21.2 | 21.4 | 0.00 | 17.4 | 13.1 | 0.12 | 16.0 | 16.2 | -0.01 | 28.2 | 21.8 | 0.15 | 25.6 | 25.9 | -0.01 |
| Osteoarthritis | 16.8 | 16.6 | 0.01 | 16.4 | 16.5 | 0.00 | 30.3 | 31.2 | -0.02 | 30.2 | 30.0 | 0.00 | 21.1 | 25.5 | -0.11 | 21.6 | 21.4 | 0.00 |
| Pneumonia | 1.9 | 2.3 | -0.03 | 1.9 | 1.9 | 0.00 | 3.3 | 6.9 | -0.17 | 3.5 | 3.5 | 0.00 | 2.3 | 4.7 | -0.13 | 2.6 | 2.5 | 0.01 |
| Psoriasis | 1.4 | 1.5 | 0.00 | 1.4 | 1.5 | -0.01 | 1.8 | 1.6 | 0.01 | 1.8 | 1.7 | 0.01 | 1.5 | 1.5 | 0.00 | 1.5 | 1.5 | 0.00 |
| Renal impairment | 3.6 | 5.8 | -0.11 | 3.8 | 3.9 | 0.00 | 10.7 | 23.3 | -0.34 | 11.4 | 11.1 | 0.01 | 8.7 | 20.1 | -0.33 | 9.9 | 9.5 | 0.01 |
| Rheumatoid arthritis | 1.0 | 1.1 | -0.01 | 1.0 | 1.0 | 0.00 | 1.6 | 2.0 | -0.03 | 1.6 | 1.9 | -0.02 | 1.3 | 1.8 | -0.04 | 1.5 | 1.4 | 0.00 |
| Schizophrenia | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | -0.01 | 0.1 | 0.2 | -0.03 | 0.1 | 0.1 | -0.02 | 0.3 | 0.5 | -0.03 | 0.3 | 0.4 | -0.01 |
| Ulcerative colitis | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | -0.01 | 0.5 | 0.5 | 0.00 | 0.5 | 0.4 | 0.01 | 0.3 | 0.4 | -0.01 | 0.3 | 0.4 | 0.00 |
| Urinary tract infectious disease | 6.8 | 7.5 | -0.02 | 6.9 | 7.0 | 0.00 | 8.6 | 13.3 | -0.15 | 8.8 | 8.7 | 0.00 | 8.5 | 13.0 | -0.15 | 8.8 | 8.7 | 0.01 |
| Viral hepatitis C | 0.3 | 0.5 | -0.03 | 0.4 | 0.4 | 0.00 | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | -0.01 | 0.6 | 0.8 | -0.02 | 0.6 | 0.7 | -0.01 |
| Visual system disorder | 28.0 | 25.7 | 0.05 | 26.3 | 26.6 | -0.01 | 55.5 | 53.8 | 0.03 | 54.6 | 54.5 | 0.00 | 36.8 | 41.7 | -0.10 | 37.0 | 36.9 | 0.00 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 2.3 | -0.02 | 2.0 | 2.0 | 0.00 | 9.3 | 14.2 | -0.15 | 9.7 | 9.4 | 0.01 | 3.5 | 7.2 | -0.17 | 3.8 | 3.7 | 0.00 |
| Cerebrovascular disease | 1.6 | 2.0 | -0.02 | 1.7 | 1.7 | 0.00 | 4.8 | 7.9 | -0.13 | 5.0 | 5.0 | 0.00 | 2.6 | 5.5 | -0.15 | 2.8 | 2.8 | 0.00 |
| Coronary arteriosclerosis | 8.1 | 8.2 | 0.00 | 7.8 | 7.9 | 0.00 | 25.2 | 28.4 | -0.07 | 25.0 | 24.6 | 0.01 | 11.8 | 17.8 | -0.17 | 12.3 | 12.1 | 0.01 |
| Heart disease | 17.5 | 18.4 | -0.02 | 17.2 | 17.3 | 0.00 | 42.6 | 49.7 | -0.14 | 42.8 | 42.2 | 0.01 | 23.5 | 34.0 | -0.23 | 24.5 | 24.2 | 0.01 |
| Heart failure | 1.9 | 2.8 | -0.06 | 2.0 | 2.1 | 0.00 | 6.8 | 13.7 | -0.23 | 7.3 | 7.2 | 0.01 | 3.9 | 9.5 | -0.22 | 4.4 | 4.3 | 0.01 |
| Ischemic heart disease | 4.0 | 4.5 | -0.03 | 3.9 | 4.0 | 0.00 | 10.2 | 13.6 | -0.10 | 10.4 | 10.2 | 0.01 | 6.2 | 10.2 | -0.15 | 6.6 | 6.4 | 0.01 |
| Peripheral vascular disease | 8.7 | 8.8 | 0.00 | 8.3 | 8.3 | 0.00 | 24.5 | 30.2 | -0.13 | 24.7 | 24.2 | 0.01 | 14.1 | 22.1 | -0.21 | 15.1 | 14.7 | 0.01 |
| Pulmonary embolism | 0.4 | 0.5 | -0.02 | 0.4 | 0.4 | -0.01 | 0.7 | 1.3 | -0.06 | 0.8 | 0.8 | 0.00 | 0.5 | 0.9 | -0.04 | 0.5 | 0.5 | 0.00 |
| Venous thrombosis | 1.3 | 1.6 | -0.02 | 1.3 | 1.4 | 0.00 | 2.6 | 4.1 | -0.08 | 2.7 | 2.6 | 0.00 | 1.7 | 2.7 | -0.07 | 1.8 | 1.7 | 0.00 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 0.8 | -0.02 | 0.7 | 0.7 | 0.00 | 1.3 | 2.0 | -0.05 | 1.3 | 1.4 | 0.00 | 0.8 | 1.3 | -0.04 | 0.9 | 0.9 | 0.00 |
| Malignant lymphoma | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 | 0.6 | 1.0 | -0.05 | 0.6 | 0.8 | -0.03 | 0.4 | 0.6 | -0.03 | 0.4 | 0.4 | 0.00 |
| Malignant neoplasm of anorectum | 0.1 | 0.2 | -0.01 | 0.1 | 0.1 | 0.00 | 0.2 | 0.4 | -0.03 | 0.3 | 0.3 | -0.02 | 0.2 | 0.2 | -0.02 | 0.2 | 0.2 | 0.00 |
| Malignant neoplastic disease | 5.3 | 5.7 | -0.02 | 5.2 | 5.3 | 0.00 | 15.7 | 18.9 | -0.08 | 16.1 | 16.0 | 0.00 | 7.1 | 10.8 | -0.13 | 7.6 | 7.5 | 0.00 |
| Malignant tumor of breast | 1.1 | 1.2 | -0.01 | 1.1 | 1.1 | 0.00 | 2.3 | 2.6 | -0.02 | 2.5 | 2.3 | 0.01 | 1.3 | 1.8 | -0.04 | 1.4 | 1.3 | 0.01 |
| Malignant tumor of colon | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | 0.01 | 0.7 | 1.0 | -0.03 | 0.8 | 0.8 | 0.00 | 0.4 | 0.6 | -0.04 | 0.4 | 0.4 | 0.00 |
| Malignant tumor of lung | 0.1 | 0.2 | -0.02 | 0.1 | 0.1 | 0.00 | 0.4 | 0.9 | -0.06 | 0.4 | 0.5 | -0.02 | 0.2 | 0.4 | -0.05 | 0.2 | 0.2 | 0.01 |
| Malignant tumor of urinary bladder | 0.1 | 0.2 | -0.02 | 0.1 | 0.1 | 0.00 | 0.9 | 1.5 | -0.05 | 1.0 | 0.9 | 0.00 | 0.2 | 0.5 | -0.06 | 0.2 | 0.2 | 0.00 |
| Primary malignant neoplasm of prostate | 0.5 | 0.5 | -0.01 | 0.5 | 0.5 | 0.00 | 3.1 | 3.5 | -0.02 | 3.2 | 2.9 | 0.02 | 0.8 | 1.5 | -0.06 | 0.9 | 0.9 | 0.00 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 66.4 | 0.12 | 69.1 | 69.4 | -0.01 | 79.1 | 75.3 | 0.09 | 78.1 | 77.9 | 0.00 | 71.7 | 70.6 | 0.02 | 70.4 | 70.1 | 0.01 |
| Antibacterials for systemic use | 57.9 | 56.2 | 0.03 | 56.6 | 57.0 | -0.01 | 61.0 | 59.8 | 0.02 | 60.2 | 60.0 | 0.00 | 55.6 | 55.8 | 0.00 | 54.8 | 54.8 | 0.00 |
| Antidepressants | 26.1 | 23.7 | 0.06 | 24.4 | 24.6 | -0.01 | 26.0 | 25.3 | 0.02 | 25.2 | 25.3 | 0.00 | 25.5 | 25.2 | 0.01 | 24.6 | 24.5 | 0.00 |
| Antiepileptics | 14.3 | 13.0 | 0.04 | 13.4 | 13.4 | 0.00 | 17.2 | 17.4 | 0.00 | 16.9 | 16.8 | 0.00 | 16.4 | 17.8 | -0.04 | 16.2 | 16.2 | 0.00 |
| Antiinflammatory and antirheumatic products | 31.2 | 30.1 | 0.02 | 30.7 | 30.6 | 0.00 | 28.0 | 25.2 | 0.06 | 27.5 | 27.5 | 0.00 | 28.7 | 27.3 | 0.03 | 28.4 | 28.4 | 0.00 |
| Antineoplastic agents | 1.9 | 2.0 | -0.01 | 1.8 | 1.9 | 0.00 | 3.6 | 4.2 | -0.03 | 3.6 | 3.7 | 0.00 | 2.2 | 3.0 | -0.05 | 2.3 | 2.2 | 0.01 |
| Antipsoriatics | 0.6 | 0.6 | -0.01 | 0.6 | 0.5 | 0.00 | 0.7 | 1.2 | -0.05 | 0.7 | 0.9 | -0.02 | 0.4 | 0.8 | -0.05 | 0.4 | 0.5 | -0.01 |
| Antithrombotic agents | 9.4 | 10.6 | -0.04 | 9.4 | 9.5 | 0.00 | 22.8 | 27.6 | -0.11 | 23.0 | 22.9 | 0.00 | 10.9 | 17.1 | -0.18 | 11.6 | 11.5 | 0.00 |
| Beta-blocking agents | 25.2 | 25.5 | -0.01 | 24.7 | 24.8 | 0.00 | 47.1 | 52.3 | -0.10 | 47.4 | 47.0 | 0.01 | 28.6 | 36.7 | -0.18 | 29.3 | 29.0 | 0.01 |
| Calcium channel blockers | 20.4 | 20.5 | 0.00 | 20.2 | 20.1 | 0.00 | 32.5 | 36.7 | -0.09 | 32.7 | 32.7 | 0.00 | 21.7 | 27.7 | -0.14 | 22.5 | 22.2 | 0.01 |
| Diuretics | 37.4 | 36.2 | 0.02 | 36.3 | 36.6 | 0.00 | 48.5 | 52.6 | -0.08 | 48.3 | 48.4 | 0.00 | 37.5 | 42.7 | -0.11 | 37.5 | 37.3 | 0.00 |
| Drugs for acid-related disorders | 24.6 | 22.8 | 0.04 | 23.3 | 23.4 | 0.00 | 32.5 | 33.3 | -0.02 | 31.8 | 31.7 | 0.00 | 23.7 | 28.1 | -0.10 | 23.8 | 23.8 | 0.00 |
| Drugs for obstructive airway diseases | 26.4 | 25.2 | 0.03 | 25.7 | 25.6 | 0.00 | 29.1 | 28.9 | 0.00 | 28.8 | 28.8 | 0.00 | 25.1 | 26.5 | -0.03 | 24.7 | 25.0 | 0.00 |
| Immunosuppressants | 2.3 | 2.5 | -0.01 | 2.2 | 2.3 | 0.00 | 3.2 | 3.6 | -0.02 | 3.3 | 3.5 | -0.01 | 2.2 | 2.7 | -0.03 | 2.3 | 2.2 | 0.00 |
| Lipid-modifying agents | 70.5 | 64.0 | 0.14 | 67.2 | 67.5 | -0.01 | 82.7 | 78.1 | 0.12 | 81.6 | 81.4 | 0.01 | 72.4 | 71.4 | 0.02 | 70.8 | 70.6 | 0.00 |
| Opioids | 21.0 | 21.1 | 0.00 | 20.6 | 20.6 | 0.00 | 23.5 | 25.1 | -0.04 | 23.6 | 23.6 | 0.00 | 18.9 | 22.3 | -0.08 | 19.3 | 19.1 | 0.00 |
| Psycholeptics | 22.3 | 21.9 | 0.01 | 21.7 | 21.7 | 0.00 | 24.8 | 26.4 | -0.04 | 24.9 | 25.0 | 0.00 | 19.9 | 22.2 | -0.05 | 19.8 | 19.7 | 0.00 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 2.8 | 0.02 | 3.0 | 3.0 | 0.00 | 1.6 | 1.2 | 0.04 | 1.5 | 1.4 | 0.01 | 2.5 | 1.7 | 0.05 | 2.2 | 2.2 | 0.00 |

DPP-4, dipeptidyl peptidase; PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

**Supplemental Table 4. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of Sulfonylureas Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | Sulfonylureas, % | Std d | Canagliflozin, % | Sulfonylureas, % | Std d | Canagliflozin, % | Sulfonylureas, % | Std d | Canagliflozin, % | Sulfonylureas, % | Std d | Canagliflozin, % | Sulfonylureas, % | Std d | Canagliflozin, % | Sulfonylureas, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.1 | -0.02 | 0.0 | 0.1 | -0.01 |  |  |  |  |  |  | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | -0.01 |
| 20-24 | 0.2 | 0.5 | -0.04 | 0.3 | 0.3 | 0.00 |  |  |  |  |  |  | 0.1 | 0.2 | -0.02 | 0.1 | 0.1 | 0.00 |
| 25-29 | 0.5 | 1.1 | -0.07 | 0.6 | 0.6 | 0.00 |  |  |  |  |  |  | 0.4 | 0.6 | -0.03 | 0.5 | 0.4 | 0.00 |
| 30-34 | 1.6 | 2.9 | -0.09 | 1.9 | 1.8 | 0.00 |  |  |  |  |  |  | 1.5 | 1.6 | -0.01 | 1.6 | 1.5 | 0.00 |
| 35-39 | 4.1 | 5.5 | -0.07 | 4.5 | 4.5 | 0.00 |  | 0.0 |  |  | 0.0 |  | 3.7 | 3.1 | 0.03 | 3.7 | 3.7 | 0.00 |
| 40-44 | 8.5 | 9.2 | -0.02 | 8.8 | 8.8 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 7.1 | 4.9 | 0.09 | 6.8 | 6.8 | 0.00 |
| 45-49 | 14.4 | 13.8 | 0.02 | 14.3 | 14.4 | 0.00 | 0.1 | 0.0 | 0.01 | 0.1 | 0.0 | 0.02 | 11.1 | 7.4 | 0.13 | 10.3 | 10.5 | 0.00 |
| 50-54 | 20.7 | 19.1 | 0.04 | 20.2 | 20.4 | 0.00 | 0.3 | 0.1 | 0.03 | 0.2 | 0.2 | 0.01 | 15.2 | 10.1 | 0.15 | 13.8 | 14.2 | -0.01 |
| 55-59 | 24.3 | 22.6 | 0.04 | 23.8 | 23.7 | 0.00 | 1.1 | 0.6 | 0.05 | 1.0 | 0.8 | 0.02 | 17.8 | 11.7 | 0.17 | 16.2 | 16.5 | -0.01 |
| 60-64 | 23.7 | 23.1 | 0.01 | 23.4 | 23.4 | 0.00 | 2.7 | 1.8 | 0.05 | 2.4 | 2.2 | 0.01 | 15.7 | 12.0 | 0.11 | 15.0 | 15.1 | 0.00 |
| 65-69 | 1.9 | 2.3 | -0.02 | 2.0 | 2.0 | 0.00 | 40.3 | 30.5 | 0.21 | 38.1 | 38.3 | 0.00 | 12.7 | 16.3 | -0.10 | 14.0 | 13.9 | 0.01 |
| 70-74 |  |  |  |  |  |  | 31.7 | 27.2 | 0.10 | 31.7 | 31.7 | 0.00 | 8.8 | 14.3 | -0.17 | 10.5 | 10.1 | 0.01 |
| 75-79 |  |  |  |  |  |  | 14.8 | 17.9 | -0.09 | 15.8 | 15.8 | 0.00 | 3.8 | 8.9 | -0.21 | 4.8 | 4.6 | 0.01 |
| 80-84 |  |  |  |  |  |  | 6.1 | 12.0 | -0.21 | 7.0 | 7.0 | 0.00 | 1.5 | 5.3 | -0.21 | 1.9 | 1.7 | 0.01 |
| 85-89 |  |  |  |  |  |  | 2.3 | 6.7 | -0.21 | 2.8 | 2.9 | 0.00 | 0.5 | 3.3 | -0.20 | 0.7 | 0.7 | 0.01 |
| 90-94 |  |  |  |  |  |  | 0.6 | 2.5 | -0.16 | 0.7 | 0.9 | -0.02 | 0.0 | 0.3 | -0.06 | 0.0 | 0.1 | -0.02 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.4 | -0.07 | 0.1 | 0.2 | -0.03 |  |  |  |  |  |  |
| 100-104 |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| Female | 44.9 | 44.0 | 0.02 | 44.7 | 44.8 | 0.00 | 42.3 | 45.8 | -0.07 | 43.5 | 43.7 | 0.00 | 43.5 | 45.1 | -0.03 | 43.9 | 44.1 | 0.00 |
| Prior acute pancreatitis | 0.9 | 0.9 | 0.00 | 0.8 | 0.8 | 0.00 | 0.8 | 1.1 | -0.03 | 0.8 | 0.7 | 0.01 | 0.9 | 0.8 | 0.01 | 0.8 | 0.7 | 0.01 |
| Prior antidiabetic medication: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 0.2 | 0.09 | 0.6 | 0.3 | 0.04 | 1.4 | 0.3 | 0.12 | 1.1 | 0.6 | 0.06 | 1.0 | 0.3 | 0.09 | 0.8 | 0.5 | 0.04 |
| Albiglutide | 0.4 | 0.2 | 0.05 | 0.3 | 0.3 | 0.00 | 0.2 | 0.1 | 0.04 | 0.1 | 0.2 | -0.03 | 0.9 | 0.2 | 0.10 | 0.6 | 0.6 | 0.00 |
| Alogliptin | 0.7 | 0.2 | 0.07 | 0.5 | 0.4 | 0.01 | 0.5 | 0.1 | 0.07 | 0.4 | 0.3 | 0.01 | 1.5 | 0.4 | 0.12 | 1.1 | 1.0 | 0.01 |
| Chlorpropamide | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |
| Dapagliflozin | 3.9 | 1.5 | 0.15 | 2.9 | 2.8 | 0.01 | 2.5 | 0.5 | 0.17 | 1.7 | 1.4 | 0.03 | 4.5 | 0.5 | 0.26 | 2.2 | 1.5 | 0.05 |
| Dulaglutide | 1.3 | 0.5 | 0.08 | 1.0 | 1.0 | 0.00 | 0.8 | 0.2 | 0.09 | 0.5 | 0.6 | -0.01 | 1.0 | 0.2 | 0.10 | 0.6 | 0.6 | 0.00 |
| Empagliflozin | 1.0 | 0.9 | 0.01 | 1.1 | 1.2 | 0.00 | 0.6 | 0.3 | 0.05 | 0.7 | 0.7 | 0.00 | 1.0 | 0.6 | 0.05 | 1.0 | 1.0 | 0.00 |
| Exenatide | 13.0 | 2.3 | 0.41 | 7.5 | 4.7 | 0.11 | 9.5 | 1.5 | 0.35 | 6.1 | 4.0 | 0.10 | 9.7 | 1.4 | 0.37 | 5.7 | 3.3 | 0.11 |
| Glimepiride | 24.8 |  |  | 22.4 |  |  | 28.8 |  |  | 28.2 |  |  | 24.0 |  |  | 22.7 |  |  |
| Glipizide | 20.4 |  |  | 19.5 |  |  | 25.0 |  |  | 25.5 |  |  | 26.2 |  |  | 26.2 |  |  |
| Glyburide | 13.0 |  |  | 12.0 |  |  | 16.2 |  |  | 16.1 |  |  | 14.4 |  |  | 13.3 |  |  |
| Insulin degludec | 0.2 | 0.1 | 0.03 | 0.2 | 0.2 | -0.01 | 0.1 | 0.0 | 0.04 | 0.1 | 0.1 | 0.00 | 0.1 | 0.0 | 0.01 | 0.1 | 0.1 | -0.01 |
| Insulin detemir | 7.9 | 1.8 | 0.29 | 4.2 | 3.4 | 0.04 | 6.5 | 1.3 | 0.27 | 4.1 | 2.9 | 0.06 | 8.3 | 2.2 | 0.28 | 5.2 | 4.4 | 0.03 |
| Insulin glargine | 16.6 | 4.6 | 0.40 | 9.8 | 8.2 | 0.06 | 14.1 | 4.5 | 0.34 | 10.2 | 8.6 | 0.05 | 16.5 | 5.3 | 0.37 | 11.4 | 9.7 | 0.06 |
| Insulin lispro | 5.3 | 1.2 | 0.23 | 2.6 | 2.1 | 0.03 | 4.3 | 1.1 | 0.19 | 2.8 | 2.1 | 0.04 | 7.1 | 2.2 | 0.24 | 4.5 | 4.0 | 0.02 |
| Insulin, aspart, human | 7.5 | 1.7 | 0.28 | 3.9 | 3.1 | 0.04 | 6.2 | 1.8 | 0.22 | 4.2 | 3.3 | 0.05 | 5.7 | 1.7 | 0.21 | 3.7 | 3.0 | 0.04 |
| Insulin, glulisine, human | 1.0 | 0.1 | 0.12 | 0.4 | 0.2 | 0.03 | 0.6 | 0.1 | 0.09 | 0.4 | 0.3 | 0.03 | 0.8 | 0.1 | 0.10 | 0.4 | 0.3 | 0.02 |
| Linagliptin | 5.0 | 2.2 | 0.15 | 4.3 | 3.9 | 0.02 | 6.0 | 2.6 | 0.17 | 5.6 | 5.5 | 0.01 | 7.6 | 2.6 | 0.23 | 6.2 | 5.7 | 0.02 |
| Liraglutide | 16.7 | 3.1 | 0.47 | 8.9 | 6.8 | 0.08 | 13.0 | 1.8 | 0.44 | 7.2 | 5.6 | 0.07 | 14.3 | 2.3 | 0.44 | 8.1 | 6.0 | 0.08 |
| Lixisenatide | 0.0 | 0.0 | 0.01 | 0.0 | 0.0 | 0.00 |  |  |  |  |  |  | 0.0 | 0.0 | 0.01 |  | 0.0 |  |
| Metformin | 90.0 | 76.6 | 0.36 | 88.8 | 81.6 | 0.21 | 86.2 | 71.1 | 0.37 | 85.6 | 80.2 | 0.14 | 88.4 | 72.1 | 0.42 | 87.1 | 79.3 | 0.21 |
| Miglitol | 0.1 | 0.0 | 0.04 | 0.1 | 0.0 | 0.02 | 0.2 | 0.1 | 0.04 | 0.2 | 0.1 | 0.03 | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.01 |
| Nateglinide | 1.4 | 0.4 | 0.12 | 1.0 | 0.7 | 0.04 | 2.5 | 1.0 | 0.12 | 2.1 | 1.7 | 0.03 | 1.2 | 0.4 | 0.09 | 0.9 | 0.6 | 0.03 |
| Pioglitazone | 20.7 | 6.1 | 0.44 | 15.5 | 10.2 | 0.16 | 24.8 | 9.9 | 0.40 | 21.7 | 16.4 | 0.13 | 21.5 | 6.8 | 0.43 | 17.3 | 11.3 | 0.17 |
| Pramlintide | 0.4 | 0.0 | 0.08 | 0.2 | 0.1 | 0.03 | 0.4 | 0.0 | 0.08 | 0.2 | 0.1 | 0.04 | 0.3 | 0.0 | 0.07 | 0.2 | 0.0 | 0.04 |
| Regular insulin, human | 1.9 | 0.8 | 0.10 | 1.3 | 1.0 | 0.03 | 1.5 | 0.9 | 0.06 | 1.3 | 1.2 | 0.01 | 2.5 | 1.2 | 0.09 | 2.0 | 1.7 | 0.03 |
| Repaglinide | 1.5 | 0.4 | 0.12 | 1.1 | 0.7 | 0.04 | 2.8 | 1.3 | 0.11 | 2.5 | 2.0 | 0.04 | 1.4 | 0.5 | 0.09 | 1.0 | 0.8 | 0.03 |
| Rosiglitazone | 5.2 | 1.1 | 0.24 | 4.0 | 1.6 | 0.15 | 5.4 | 2.2 | 0.17 | 5.6 | 2.9 | 0.14 | 5.2 | 1.2 | 0.23 | 4.1 | 1.6 | 0.15 |
| Saxagliptin | 10.3 | 3.5 | 0.27 | 8.1 | 6.7 | 0.05 | 9.6 | 3.4 | 0.26 | 8.7 | 7.5 | 0.04 | 14.2 | 4.3 | 0.35 | 11.0 | 9.6 | 0.05 |
| Sitagliptin | 35.7 | 15.2 | 0.48 | 30.3 | 26.6 | 0.08 | 42.7 | 17.7 | 0.56 | 39.7 | 36.6 | 0.06 | 29.4 | 11.7 | 0.45 | 25.5 | 20.7 | 0.11 |
| Tolazamide | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |
| Tolbutamide | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 25.8 | 0.04 | 26.9 | 27.0 | 0.00 | 23.8 | 24.3 | -0.01 | 23.6 | 23.7 | 0.00 | 26.5 | 25.2 | 0.03 | 25.6 | 25.7 | 0.00 |
| Attention deficit hyperactivity disorder | 1.0 | 0.8 | 0.02 | 0.9 | 0.9 | 0.00 | 0.2 | 0.1 | 0.02 | 0.3 | 0.2 | 0.02 | 1.0 | 0.5 | 0.05 | 0.8 | 0.8 | 0.00 |
| Chronic liver disease | 4.3 | 3.7 | 0.03 | 3.9 | 4.0 | 0.00 | 3.1 | 2.7 | 0.02 | 3.0 | 2.9 | 0.00 | 4.2 | 3.6 | 0.03 | 3.9 | 3.9 | 0.00 |
| Chronic obstructive lung disease | 2.4 | 3.1 | -0.05 | 2.4 | 2.5 | 0.00 | 9.6 | 13.5 | -0.12 | 10.0 | 9.8 | 0.01 | 5.3 | 9.8 | -0.17 | 5.9 | 5.7 | 0.01 |
| Crohn’s disease | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 | 0.3 | 0.4 | -0.02 | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 |
| Dementia | 0.2 | 0.2 | -0.01 | 0.2 | 0.2 | 0.00 | 1.5 | 4.7 | -0.19 | 1.6 | 1.9 | -0.02 | 0.6 | 2.5 | -0.15 | 0.8 | 0.8 | 0.00 |
| Depressive disorder | 10.0 | 9.9 | 0.00 | 9.8 | 9.8 | 0.00 | 8.2 | 10.1 | -0.07 | 8.4 | 8.6 | -0.01 | 12.4 | 13.2 | -0.02 | 12.4 | 12.4 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 11.0 | 0.01 | 11.1 | 11.2 | 0.00 | 14.8 | 15.7 | -0.03 | 14.8 | 14.5 | 0.01 | 14.9 | 16.2 | -0.04 | 15.1 | 15.2 | 0.00 |
| Gastrointestinal hemorrhage | 1.5 | 1.8 | -0.02 | 1.5 | 1.6 | -0.01 | 2.5 | 3.7 | -0.07 | 2.7 | 2.6 | 0.00 | 1.8 | 2.7 | -0.06 | 1.9 | 1.9 | 0.00 |
| Human immunodeficiency virus infection | 0.2 | 0.3 | -0.02 | 0.2 | 0.2 | 0.00 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | -0.02 | 0.2 | 0.3 | -0.01 | 0.2 | 0.3 | -0.01 |
| Hyperlipidemia | 75.3 | 63.9 | 0.25 | 71.8 | 72.4 | -0.01 | 76.7 | 70.2 | 0.15 | 75.0 | 75.8 | -0.02 | 81.3 | 74.0 | 0.18 | 78.9 | 79.1 | 0.00 |
| Hypertensive disorder | 72.8 | 66.2 | 0.14 | 70.6 | 70.9 | -0.01 | 82.8 | 81.1 | 0.04 | 82.1 | 82.5 | -0.01 | 78.5 | 77.2 | 0.03 | 77.3 | 77.1 | 0.00 |
| Lesion of liver | 0.6 | 0.9 | -0.03 | 0.6 | 0.6 | 0.00 | 0.9 | 1.6 | -0.06 | 1.0 | 1.0 | 0.00 | 0.8 | 1.4 | -0.05 | 0.9 | 0.9 | 0.00 |
| Obesity | 22.5 | 21.0 | 0.04 | 21.4 | 21.4 | 0.00 | 17.4 | 13.4 | 0.11 | 15.6 | 15.7 | 0.00 | 28.2 | 22.3 | 0.14 | 26.1 | 26.3 | 0.00 |
| Osteoarthritis | 16.8 | 15.5 | 0.04 | 16.2 | 16.4 | 0.00 | 30.3 | 31.1 | -0.02 | 30.3 | 30.3 | 0.00 | 21.1 | 23.7 | -0.06 | 21.3 | 21.2 | 0.00 |
| Pneumonia | 1.9 | 2.5 | -0.04 | 1.9 | 1.9 | 0.00 | 3.3 | 6.9 | -0.17 | 3.6 | 3.6 | 0.00 | 2.3 | 4.7 | -0.13 | 2.5 | 2.5 | 0.00 |
| Psoriasis | 1.4 | 1.4 | 0.01 | 1.4 | 1.4 | 0.00 | 1.8 | 1.5 | 0.02 | 1.7 | 1.6 | 0.02 | 1.5 | 1.4 | 0.01 | 1.5 | 1.5 | -0.01 |
| Renal impairment | 3.6 | 5.5 | -0.09 | 3.7 | 3.6 | 0.00 | 10.7 | 21.1 | -0.29 | 12.0 | 11.8 | 0.00 | 8.7 | 16.9 | -0.25 | 9.6 | 9.1 | 0.02 |
| Rheumatoid arthritis | 1.0 | 1.1 | 0.00 | 1.0 | 1.1 | 0.00 | 1.6 | 2.0 | -0.03 | 1.6 | 1.8 | -0.01 | 1.3 | 1.7 | -0.03 | 1.4 | 1.4 | 0.00 |
| Schizophrenia | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | 0.00 | 0.1 | 0.2 | -0.03 | 0.1 | 0.1 | -0.02 | 0.3 | 0.4 | -0.03 | 0.3 | 0.3 | -0.01 |
| Ulcerative colitis | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 | 0.5 | 0.5 | -0.01 | 0.4 | 0.4 | 0.00 | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 |
| Urinary tract infectious disease | 6.8 | 7.3 | -0.02 | 6.8 | 6.8 | 0.00 | 8.6 | 12.6 | -0.13 | 8.8 | 8.8 | 0.00 | 8.5 | 11.6 | -0.10 | 8.7 | 8.6 | 0.00 |
| Viral hepatitis C | 0.3 | 0.5 | -0.03 | 0.4 | 0.4 | 0.00 | 0.3 | 0.4 | -0.02 | 0.2 | 0.3 | -0.02 | 0.6 | 0.8 | -0.03 | 0.6 | 0.6 | 0.00 |
| Visual system disorder | 28.0 | 23.2 | 0.11 | 25.5 | 25.6 | 0.00 | 55.5 | 51.2 | 0.08 | 53.7 | 54.2 | -0.01 | 36.8 | 37.1 | -0.01 | 36.4 | 35.9 | 0.01 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 2.0 | -0.01 | 1.9 | 1.9 | 0.00 | 9.3 | 14.1 | -0.15 | 10.1 | 10.1 | 0.00 | 3.5 | 6.9 | -0.16 | 3.8 | 3.7 | 0.01 |
| Cerebrovascular disease | 1.6 | 1.9 | -0.02 | 1.7 | 1.7 | 0.00 | 4.8 | 7.6 | -0.12 | 4.9 | 5.1 | -0.01 | 2.6 | 4.7 | -0.11 | 2.8 | 2.7 | 0.01 |
| Coronary arteriosclerosis | 8.1 | 7.3 | 0.03 | 7.6 | 7.6 | 0.00 | 25.2 | 27.2 | -0.05 | 25.0 | 24.7 | 0.01 | 11.8 | 16.1 | -0.12 | 12.0 | 11.9 | 0.00 |
| Heart disease | 17.5 | 16.7 | 0.02 | 16.8 | 16.7 | 0.00 | 42.6 | 48.2 | -0.11 | 42.6 | 42.8 | 0.00 | 23.5 | 31.4 | -0.18 | 24.1 | 23.8 | 0.01 |
| Heart failure | 1.9 | 2.8 | -0.06 | 2.0 | 2.0 | 0.00 | 6.8 | 13.0 | -0.21 | 7.5 | 7.5 | 0.00 | 3.9 | 8.4 | -0.19 | 4.3 | 4.2 | 0.01 |
| Ischemic heart disease | 4.0 | 4.3 | -0.02 | 3.8 | 3.9 | 0.00 | 10.2 | 12.7 | -0.08 | 10.5 | 10.5 | 0.00 | 6.2 | 9.3 | -0.12 | 6.5 | 6.4 | 0.00 |
| Peripheral vascular disease | 8.7 | 7.8 | 0.03 | 8.0 | 8.1 | 0.00 | 24.5 | 28.1 | -0.08 | 24.4 | 24.4 | 0.00 | 14.1 | 18.8 | -0.13 | 14.4 | 14.3 | 0.00 |
| Pulmonary embolism | 0.4 | 0.5 | -0.03 | 0.4 | 0.4 | 0.00 | 0.7 | 1.3 | -0.06 | 0.8 | 0.9 | 0.00 | 0.5 | 0.9 | -0.05 | 0.5 | 0.5 | 0.00 |
| Venous thrombosis | 1.3 | 1.5 | -0.02 | 1.3 | 1.3 | 0.00 | 2.6 | 4.1 | -0.08 | 2.7 | 2.8 | 0.00 | 1.7 | 2.6 | -0.06 | 1.7 | 1.8 | 0.00 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 0.9 | -0.02 | 0.7 | 0.7 | 0.00 | 1.3 | 2.4 | -0.08 | 1.3 | 1.5 | -0.01 | 0.8 | 1.4 | -0.06 | 1.0 | 0.9 | 0.01 |
| Malignant lymphoma | 0.3 | 0.4 | -0.01 | 0.3 | 0.3 | 0.00 | 0.6 | 1.0 | -0.05 | 0.6 | 0.7 | -0.01 | 0.4 | 0.6 | -0.03 | 0.4 | 0.4 | 0.00 |
| Malignant neoplasm of anorectum | 0.1 | 0.2 | -0.01 | 0.1 | 0.1 | 0.00 | 0.2 | 0.4 | -0.03 | 0.3 | 0.3 | -0.01 | 0.2 | 0.3 | -0.02 | 0.2 | 0.1 | 0.01 |
| Malignant neoplastic disease | 5.3 | 5.5 | -0.01 | 5.2 | 5.2 | 0.00 | 15.7 | 19.5 | -0.10 | 16.1 | 16.2 | 0.00 | 7.1 | 10.4 | -0.12 | 7.6 | 7.4 | 0.01 |
| Malignant tumor of breast | 1.1 | 1.1 | 0.00 | 1.1 | 1.1 | 0.00 | 2.3 | 2.8 | -0.03 | 2.3 | 2.5 | -0.01 | 1.3 | 1.6 | -0.03 | 1.4 | 1.3 | 0.00 |
| Malignant tumor of colon | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | 0.00 | 0.7 | 1.1 | -0.04 | 0.8 | 0.7 | 0.01 | 0.4 | 0.7 | -0.04 | 0.4 | 0.4 | 0.00 |
| Malignant tumor of lung | 0.1 | 0.3 | -0.04 | 0.1 | 0.1 | 0.00 | 0.4 | 1.1 | -0.08 | 0.5 | 0.5 | 0.00 | 0.2 | 0.6 | -0.07 | 0.2 | 0.2 | 0.01 |
| Malignant tumor of urinary bladder | 0.1 | 0.2 | -0.02 | 0.1 | 0.1 | -0.01 | 0.9 | 1.3 | -0.04 | 1.0 | 1.0 | 0.01 | 0.2 | 0.5 | -0.06 | 0.2 | 0.2 | 0.00 |
| Primary malignant neoplasm of prostate | 0.5 | 0.5 | 0.00 | 0.5 | 0.5 | 0.00 | 3.1 | 3.4 | -0.02 | 3.3 | 2.9 | 0.02 | 0.8 | 1.4 | -0.06 | 0.9 | 0.9 | 0.00 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 61.8 | 0.21 | 68.2 | 68.4 | 0.00 | 79.1 | 70.6 | 0.20 | 77.1 | 77.6 | -0.01 | 71.7 | 65.3 | 0.14 | 69.6 | 69.3 | 0.01 |
| Antibacterials for systemic use | 57.9 | 54.3 | 0.07 | 56.3 | 56.4 | 0.00 | 61.0 | 58.9 | 0.04 | 60.0 | 59.8 | 0.00 | 55.6 | 53.3 | 0.05 | 54.2 | 54.1 | 0.00 |
| Antidepressants | 26.1 | 22.6 | 0.08 | 24.4 | 24.6 | 0.00 | 26.0 | 25.2 | 0.02 | 25.4 | 25.5 | 0.00 | 25.5 | 23.9 | 0.04 | 24.7 | 24.5 | 0.00 |
| Antiepileptics | 14.3 | 12.0 | 0.07 | 13.1 | 13.1 | 0.00 | 17.2 | 16.6 | 0.02 | 16.7 | 16.7 | 0.00 | 16.4 | 16.0 | 0.01 | 15.9 | 16.0 | 0.00 |
| Antiinflammatory and antirheumatic products | 31.2 | 28.8 | 0.05 | 30.3 | 30.3 | 0.00 | 28.0 | 24.4 | 0.08 | 27.0 | 27.2 | 0.00 | 28.7 | 25.4 | 0.07 | 27.9 | 28.0 | 0.00 |
| Antineoplastic agents | 1.9 | 2.0 | -0.01 | 1.8 | 1.8 | 0.00 | 3.6 | 4.6 | -0.05 | 3.6 | 3.9 | -0.02 | 2.2 | 2.9 | -0.04 | 2.3 | 2.2 | 0.00 |
| Antipsoriatics | 0.6 | 0.5 | 0.00 | 0.5 | 0.5 | 0.00 | 0.7 | 1.0 | -0.02 | 0.8 | 0.8 | 0.00 | 0.4 | 0.6 | -0.03 | 0.4 | 0.4 | 0.00 |
| Antithrombotic agents | 9.4 | 10.0 | -0.02 | 9.2 | 9.1 | 0.00 | 22.8 | 27.3 | -0.10 | 23.0 | 23.2 | -0.01 | 10.9 | 15.5 | -0.14 | 11.3 | 11.2 | 0.00 |
| Beta-blocking agents | 25.2 | 24.2 | 0.02 | 24.5 | 24.4 | 0.00 | 47.1 | 49.9 | -0.06 | 46.9 | 47.5 | -0.01 | 28.6 | 34.1 | -0.12 | 29.1 | 28.7 | 0.01 |
| Calcium channel blockers | 20.4 | 19.1 | 0.03 | 19.6 | 19.7 | 0.00 | 32.5 | 34.6 | -0.04 | 32.7 | 32.8 | 0.00 | 21.7 | 25.2 | -0.08 | 22.1 | 22.0 | 0.00 |
| Diuretics | 37.4 | 34.2 | 0.07 | 35.9 | 36.1 | 0.00 | 48.5 | 50.9 | -0.05 | 48.7 | 48.8 | 0.00 | 37.5 | 39.9 | -0.05 | 37.3 | 37.1 | 0.00 |
| Drugs for acid-related disorders | 24.6 | 21.3 | 0.08 | 23.1 | 23.1 | 0.00 | 32.5 | 32.6 | 0.00 | 31.6 | 31.7 | 0.00 | 23.7 | 25.2 | -0.04 | 23.4 | 23.3 | 0.00 |
| Drugs for obstructive airway diseases | 26.4 | 23.6 | 0.06 | 25.0 | 25.1 | 0.00 | 29.1 | 28.8 | 0.01 | 28.7 | 29.0 | -0.01 | 25.1 | 24.1 | 0.02 | 24.2 | 24.3 | 0.00 |
| Immunosuppressants | 2.3 | 2.4 | -0.01 | 2.2 | 2.2 | 0.00 | 3.2 | 3.7 | -0.02 | 3.2 | 3.4 | -0.01 | 2.2 | 2.3 | -0.01 | 2.1 | 2.2 | 0.00 |
| Lipid-modifying agents | 70.5 | 58.9 | 0.24 | 66.1 | 66.3 | 0.00 | 82.7 | 74.3 | 0.21 | 80.6 | 80.8 | -0.01 | 72.4 | 64.8 | 0.17 | 69.7 | 69.4 | 0.01 |
| Opioids | 21.0 | 20.7 | 0.01 | 20.4 | 20.5 | 0.00 | 23.5 | 25.4 | -0.04 | 23.6 | 23.8 | -0.01 | 18.9 | 21.6 | -0.07 | 19.1 | 19.0 | 0.00 |
| Psycholeptics | 22.3 | 20.8 | 0.04 | 21.4 | 21.5 | 0.00 | 24.8 | 26.7 | -0.04 | 24.9 | 25.2 | -0.01 | 19.9 | 21.4 | -0.04 | 19.7 | 19.6 | 0.00 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 2.7 | 0.03 | 3.0 | 3.0 | 0.00 | 1.6 | 1.2 | 0.04 | 1.6 | 1.4 | 0.01 | 2.5 | 1.5 | 0.07 | 2.1 | 2.1 | 0.00 |

PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

**Supplemental Table 5. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of TZD Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | TZD, % | Std d | Canagliflozin, % | TZD, % | Std d | Canagliflozin, % | TZD, % | Std d | Canagliflozin, % | TZD, % | Std d | Canagliflozin, % | TZD, % | Std d | Canagliflozin, % | TZD, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |  |  |  |  |  |  | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | -0.01 |
| 20-24 | 0.2 | 0.3 | -0.02 | 0.3 | 0.3 | 0.00 |  |  |  |  |  |  | 0.1 | 0.1 | 0.00 | 0.1 | 0.2 | -0.02 |
| 25-29 | 0.5 | 0.7 | -0.03 | 0.6 | 0.7 | -0.01 |  |  |  |  |  |  | 0.4 | 0.3 | 0.02 | 0.5 | 0.4 | 0.01 |
| 30-34 | 1.6 | 2.0 | -0.03 | 2.0 | 1.9 | 0.01 |  |  |  |  |  |  | 1.5 | 1.0 | 0.04 | 1.3 | 1.3 | 0.00 |
| 35-39 | 4.1 | 4.8 | -0.03 | 4.9 | 4.7 | 0.01 |  |  |  |  |  |  | 3.7 | 2.3 | 0.09 | 2.7 | 2.9 | -0.01 |
| 40-44 | 8.5 | 8.7 | -0.01 | 8.7 | 8.7 | 0.00 | 0.0 | 0.0 | -0.01 |  | 0.0 |  | 7.1 | 4.1 | 0.13 | 4.9 | 5.2 | -0.01 |
| 45-49 | 14.4 | 14.0 | 0.01 | 14.5 | 14.2 | 0.01 | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.02 | 11.1 | 6.7 | 0.15 | 8.3 | 8.6 | -0.01 |
| 50-54 | 20.7 | 19.2 | 0.04 | 19.4 | 19.5 | 0.00 | 0.3 | 0.1 | 0.05 | 0.2 | 0.1 | 0.04 | 15.2 | 8.9 | 0.19 | 10.7 | 11.5 | -0.02 |
| 55-59 | 24.3 | 23.6 | 0.02 | 23.7 | 23.8 | 0.00 | 1.1 | 0.8 | 0.03 | 1.0 | 0.9 | 0.01 | 17.8 | 11.0 | 0.20 | 13.2 | 13.9 | -0.02 |
| 60-64 | 23.7 | 24.2 | -0.01 | 23.5 | 23.8 | -0.01 | 2.7 | 1.3 | 0.10 | 1.8 | 1.6 | 0.02 | 15.7 | 11.7 | 0.12 | 13.8 | 14.2 | -0.01 |
| 65-69 | 1.9 | 2.5 | -0.04 | 2.3 | 2.3 | 0.00 | 40.3 | 32.8 | 0.16 | 35.0 | 36.6 | -0.03 | 12.7 | 18.1 | -0.15 | 17.9 | 17.3 | 0.02 |
| 70-74 |  |  |  |  |  |  | 31.7 | 28.4 | 0.07 | 30.1 | 30.5 | -0.01 | 8.8 | 17.0 | -0.25 | 15.0 | 13.9 | 0.03 |
| 75-79 |  |  |  |  |  |  | 14.8 | 17.3 | -0.07 | 17.5 | 16.8 | 0.02 | 3.8 | 10.1 | -0.25 | 7.3 | 6.6 | 0.03 |
| 80-84 |  |  |  |  |  |  | 6.1 | 11.4 | -0.19 | 9.3 | 8.5 | 0.03 | 1.5 | 5.6 | -0.23 | 3.1 | 2.8 | 0.02 |
| 85-89 |  |  |  |  |  |  | 2.3 | 5.8 | -0.18 | 3.9 | 3.6 | 0.01 | 0.5 | 3.0 | -0.18 | 1.2 | 1.1 | 0.01 |
| 90-94 |  |  |  |  |  |  | 0.6 | 1.8 | -0.11 | 1.0 | 1.2 | -0.02 | 0.0 | 0.2 | -0.05 | 0.1 | 0.2 | -0.03 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.2 | -0.04 | 0.1 | 0.1 | -0.01 |  |  |  |  |  |  |
| 100-104 |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| Female | 44.9 | 41.0 | 0.08 | 41.4 | 41.6 | 0.00 | 42.3 | 45.0 | -0.06 | 43.5 | 44.0 | -0.01 | 43.5 | 44.1 | -0.01 | 43.2 | 43.1 | 0.00 |
| Prior acute pancreatitis | 0.9 | 1.0 | -0.01 | 0.9 | 0.9 | 0.00 | 0.8 | 0.9 | 0.00 | 1.0 | 0.8 | 0.03 | 0.9 | 0.8 | 0.01 | 0.8 | 0.8 | 0.01 |
| Prior antidiabetic medication: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 0.5 | 0.04 | 0.8 | 0.6 | 0.03 | 1.4 | 1.0 | 0.04 | 1.2 | 1.0 | 0.02 | 1.0 | 1.0 | 0.01 | 1.1 | 0.9 | 0.02 |
| Albiglutide | 0.4 | 0.5 | -0.01 | 0.5 | 0.5 | -0.01 | 0.2 | 0.2 | -0.01 | 0.1 | 0.3 | -0.05 | 0.9 | 0.4 | 0.06 | 0.4 | 0.6 | -0.02 |
| Alogliptin | 0.7 | 0.4 | 0.04 | 1.5 | 0.3 | 0.12 | 0.5 | 0.4 | 0.02 | 0.8 | 0.2 | 0.09 | 1.5 | 0.8 | 0.07 | 2.1 | 0.9 | 0.10 |
| Chlorpropamide | 0.0 |  |  | 0.0 |  |  | 0.0 | 0.1 | -0.01 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |
| Dapagliflozin | 3.9 | 4.5 | -0.03 | 4.7 | 4.2 | 0.02 | 2.5 | 1.1 | 0.11 | 1.6 | 1.3 | 0.02 | 4.5 | 1.3 | 0.19 | 2.1 | 1.7 | 0.03 |
| Dulaglutide | 1.3 | 1.6 | -0.02 | 1.4 | 1.5 | -0.01 | 0.8 | 0.6 | 0.03 | 0.7 | 0.8 | -0.01 | 1.0 | 0.6 | 0.04 | 0.8 | 0.7 | 0.00 |
| Empagliflozin | 1.0 | 2.3 | -0.11 | 2.0 | 1.8 | 0.02 | 0.6 | 0.9 | -0.03 | 0.6 | 1.0 | -0.04 | 1.0 | 1.4 | -0.03 | 1.4 | 1.4 | 0.01 |
| Exenatide | 13.0 | 4.7 | 0.30 | 6.9 | 5.0 | 0.08 | 9.5 | 3.0 | 0.27 | 5.3 | 3.8 | 0.07 | 9.7 | 2.8 | 0.29 | 4.9 | 3.4 | 0.08 |
| Glimepiride | 24.8 | 18.8 | 0.15 | 21.5 | 19.1 | 0.06 | 28.8 | 24.6 | 0.10 | 27.8 | 25.3 | 0.06 | 24.0 | 21.4 | 0.06 | 23.9 | 21.1 | 0.07 |
| Glipizide | 20.4 | 22.3 | -0.05 | 22.8 | 20.9 | 0.04 | 25.0 | 25.7 | -0.02 | 27.3 | 24.6 | 0.06 | 26.2 | 30.8 | -0.10 | 30.6 | 28.1 | 0.05 |
| Glyburide | 13.0 | 11.0 | 0.06 | 12.1 | 11.1 | 0.03 | 16.2 | 14.5 | 0.05 | 16.7 | 14.3 | 0.07 | 14.4 | 12.8 | 0.05 | 14.3 | 12.5 | 0.05 |
| Insulin degludec | 0.2 | 0.4 | -0.03 | 0.4 | 0.4 | -0.01 | 0.1 | 0.1 | 0.01 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | 0.01 | 0.0 | 0.1 | -0.01 |
| Insulin detemir | 7.9 | 3.6 | 0.19 | 4.3 | 3.8 | 0.02 | 6.5 | 2.4 | 0.20 | 3.4 | 2.9 | 0.03 | 8.3 | 4.0 | 0.18 | 5.2 | 4.7 | 0.02 |
| Insulin glargine | 16.6 | 8.5 | 0.24 | 9.6 | 8.9 | 0.02 | 14.1 | 6.9 | 0.24 | 8.0 | 8.0 | 0.00 | 16.5 | 8.1 | 0.26 | 10.6 | 9.4 | 0.04 |
| Insulin lispro | 5.3 | 2.3 | 0.15 | 2.7 | 2.5 | 0.02 | 4.3 | 2.2 | 0.12 | 2.4 | 2.5 | -0.01 | 7.1 | 3.3 | 0.17 | 4.2 | 3.8 | 0.02 |
| Insulin, aspart, human | 7.5 | 3.7 | 0.16 | 4.2 | 4.0 | 0.01 | 6.2 | 3.1 | 0.15 | 3.8 | 3.4 | 0.02 | 5.7 | 2.6 | 0.16 | 3.5 | 3.1 | 0.02 |
| Insulin, glulisine, human | 1.0 | 0.4 | 0.08 | 0.4 | 0.4 | 0.01 | 0.6 | 0.2 | 0.07 | 0.2 | 0.2 | 0.00 | 0.8 | 0.2 | 0.09 | 0.3 | 0.2 | 0.02 |
| Linagliptin | 5.0 | 4.2 | 0.04 | 4.3 | 4.1 | 0.01 | 6.0 | 4.3 | 0.08 | 5.2 | 4.8 | 0.02 | 7.6 | 4.6 | 0.13 | 5.7 | 5.4 | 0.02 |
| Liraglutide | 16.7 | 6.5 | 0.32 | 8.1 | 7.0 | 0.04 | 13.0 | 3.5 | 0.35 | 5.2 | 4.6 | 0.03 | 14.3 | 4.5 | 0.34 | 7.0 | 5.8 | 0.05 |
| Lixisenatide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.00 |  | 0.0 |  | 0.0 | 0.0 | 0.00 |  | 0.0 |  |
| Metformin | 90.0 | 84.3 | 0.17 | 88.1 | 84.5 | 0.10 | 86.2 | 79.7 | 0.17 | 84.0 | 81.5 | 0.07 | 88.4 | 81.6 | 0.19 | 86.4 | 83.5 | 0.08 |
| Miglitol | 0.1 | 0.0 | 0.03 | 0.1 | 0.0 | 0.02 | 0.2 | 0.0 | 0.06 | 0.3 | 0.0 | 0.06 | 0.1 | 0.0 | 0.02 | 0.1 | 0.0 | 0.01 |
| Nateglinide | 1.4 | 0.6 | 0.08 | 0.9 | 0.7 | 0.03 | 2.5 | 1.6 | 0.06 | 2.3 | 1.7 | 0.05 | 1.2 | 0.7 | 0.05 | 1.1 | 0.7 | 0.05 |
| Pioglitazone | 20.7 |  |  | 17.5 |  |  | 24.8 |  |  | 23.6 |  |  | 21.5 |  |  | 21.0 |  |  |
| Pramlintide | 0.4 | 0.0 | 0.08 | 0.1 | 0.0 | 0.04 | 0.4 | 0.1 | 0.06 | 0.2 | 0.1 | 0.00 | 0.3 | 0.1 | 0.06 | 0.1 | 0.1 | 0.02 |
| Regular insulin, human | 1.9 | 1.3 | 0.05 | 1.4 | 1.3 | 0.00 | 1.5 | 1.2 | 0.03 | 1.2 | 1.3 | -0.01 | 2.5 | 1.7 | 0.05 | 2.1 | 1.9 | 0.01 |
| Repaglinide | 1.5 | 0.7 | 0.09 | 1.1 | 0.7 | 0.04 | 2.8 | 1.5 | 0.09 | 2.4 | 1.6 | 0.05 | 1.4 | 1.0 | 0.03 | 1.2 | 1.0 | 0.03 |
| Rosiglitazone | 5.2 |  |  | 3.7 |  |  | 5.4 |  |  | 5.7 |  |  | 5.2 |  |  | 4.4 |  |  |
| Saxagliptin | 10.3 | 6.1 | 0.15 | 7.1 | 6.3 | 0.03 | 9.6 | 5.7 | 0.15 | 7.8 | 6.6 | 0.04 | 14.2 | 8.1 | 0.20 | 10.4 | 9.5 | 0.03 |
| Sitagliptin | 35.7 | 25.0 | 0.23 | 29.0 | 26.1 | 0.06 | 42.7 | 28.6 | 0.30 | 35.2 | 32.4 | 0.06 | 29.4 | 21.1 | 0.19 | 26.6 | 22.6 | 0.09 |
| Tolazamide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | -0.01 |  | 0.0 |  | 0.0 |  |  | 0.0 |  |  |
| Tolbutamide | 0.0 | 0.0 | 0.00 |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| Medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 25.8 | 0.04 | 26.0 | 26.0 | 0.00 | 23.8 | 21.0 | 0.07 | 21.3 | 21.9 | -0.01 | 26.5 | 23.1 | 0.08 | 23.4 | 24.0 | -0.01 |
| Attention deficit hyperactivity disorder | 1.0 | 0.9 | 0.01 | 0.9 | 0.9 | 0.00 | 0.2 | 0.2 | 0.00 | 0.1 | 0.2 | -0.03 | 1.0 | 0.5 | 0.05 | 0.7 | 0.7 | 0.01 |
| Chronic liver disease | 4.3 | 3.7 | 0.03 | 3.8 | 3.7 | 0.00 | 3.1 | 2.5 | 0.04 | 2.5 | 2.6 | -0.01 | 4.2 | 3.4 | 0.05 | 3.3 | 3.6 | -0.02 |
| Chronic obstructive lung disease | 2.4 | 2.5 | -0.01 | 2.4 | 2.4 | 0.00 | 9.6 | 9.0 | 0.02 | 9.4 | 8.8 | 0.02 | 5.3 | 7.7 | -0.10 | 6.7 | 6.4 | 0.01 |
| Crohn’s disease | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 | 0.3 | 0.4 | -0.01 | 0.3 | 0.4 | -0.02 | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.00 |
| Dementia | 0.2 | 0.2 | -0.01 | 0.2 | 0.2 | 0.00 | 1.5 | 3.7 | -0.14 | 2.3 | 2.4 | -0.01 | 0.6 | 1.9 | -0.11 | 1.1 | 1.1 | 0.00 |
| Depressive disorder | 10.0 | 9.7 | 0.01 | 9.6 | 9.6 | 0.00 | 8.2 | 8.6 | -0.02 | 8.0 | 8.7 | -0.03 | 12.4 | 12.5 | 0.00 | 12.2 | 12.1 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 11.1 | 0.00 | 10.9 | 10.9 | 0.00 | 14.8 | 14.3 | 0.01 | 14.0 | 14.2 | -0.01 | 14.9 | 15.7 | -0.02 | 15.4 | 15.1 | 0.01 |
| Gastrointestinal hemorrhage | 1.5 | 1.6 | -0.01 | 1.4 | 1.6 | -0.01 | 2.5 | 2.4 | 0.01 | 2.4 | 2.3 | 0.01 | 1.8 | 2.1 | -0.02 | 1.9 | 2.0 | 0.00 |
| Human immunodeficiency virus infection | 0.2 | 0.2 | -0.02 | 0.2 | 0.2 | -0.01 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | -0.02 | 0.2 | 0.3 | -0.01 | 0.2 | 0.3 | -0.02 |
| Hyperlipidemia | 75.3 | 72.2 | 0.07 | 72.5 | 72.5 | 0.00 | 76.7 | 73.8 | 0.07 | 74.0 | 74.5 | -0.01 | 81.3 | 79.9 | 0.04 | 79.8 | 79.8 | 0.00 |
| Hypertensive disorder | 72.8 | 69.5 | 0.07 | 69.6 | 69.8 | 0.00 | 82.8 | 81.4 | 0.04 | 81.5 | 81.2 | 0.01 | 78.5 | 79.2 | -0.02 | 78.1 | 77.9 | 0.01 |
| Lesion of liver | 0.6 | 0.7 | -0.01 | 0.6 | 0.6 | 0.00 | 0.9 | 1.0 | -0.01 | 0.9 | 1.0 | -0.02 | 0.8 | 1.0 | -0.02 | 0.9 | 1.0 | -0.01 |
| Obesity | 22.5 | 19.0 | 0.09 | 19.5 | 19.4 | 0.00 | 17.4 | 12.3 | 0.14 | 13.4 | 13.6 | -0.01 | 28.2 | 20.1 | 0.19 | 22.5 | 22.8 | -0.01 |
| Osteoarthritis | 16.8 | 15.8 | 0.03 | 15.7 | 15.7 | 0.00 | 30.3 | 28.4 | 0.04 | 29.0 | 28.5 | 0.01 | 21.1 | 23.5 | -0.06 | 22.4 | 22.0 | 0.01 |
| Pneumonia | 1.9 | 1.9 | 0.00 | 1.8 | 1.8 | 0.00 | 3.3 | 4.3 | -0.05 | 3.7 | 3.7 | 0.00 | 2.3 | 3.2 | -0.05 | 2.7 | 2.6 | 0.00 |
| Psoriasis | 1.4 | 1.4 | 0.00 | 1.4 | 1.4 | 0.00 | 1.8 | 1.5 | 0.02 | 1.6 | 1.7 | -0.01 | 1.5 | 1.4 | 0.01 | 1.4 | 1.4 | 0.00 |
| Renal impairment | 3.6 | 6.0 | -0.11 | 5.1 | 5.0 | 0.00 | 10.7 | 19.7 | -0.25 | 15.5 | 14.1 | 0.04 | 8.7 | 19.3 | -0.31 | 13.2 | 12.6 | 0.02 |
| Rheumatoid arthritis | 1.0 | 0.9 | 0.01 | 1.0 | 0.9 | 0.00 | 1.6 | 1.5 | 0.01 | 1.6 | 1.4 | 0.01 | 1.3 | 1.5 | -0.01 | 1.4 | 1.4 | 0.00 |
| Schizophrenia | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | 0.00 | 0.3 | 0.4 | -0.02 | 0.4 | 0.4 | -0.01 |
| Ulcerative colitis | 0.3 | 0.3 | -0.01 | 0.3 | 0.3 | -0.01 | 0.5 | 0.4 | 0.01 | 0.4 | 0.4 | 0.00 | 0.3 | 0.4 | -0.01 | 0.4 | 0.4 | 0.00 |
| Urinary tract infectious disease | 6.8 | 6.7 | 0.00 | 6.7 | 6.6 | 0.00 | 8.6 | 10.4 | -0.06 | 9.3 | 9.4 | 0.00 | 8.5 | 10.4 | -0.07 | 9.0 | 8.9 | 0.00 |
| Viral hepatitis C | 0.3 | 0.4 | -0.01 | 0.4 | 0.4 | 0.00 | 0.3 | 0.3 | 0.00 | 0.2 | 0.3 | -0.01 | 0.6 | 0.7 | -0.02 | 0.6 | 0.7 | 0.00 |
| Visual system disorder | 28.0 | 24.9 | 0.07 | 24.7 | 25.0 | -0.01 | 55.5 | 52.2 | 0.06 | 52.2 | 52.7 | -0.01 | 36.8 | 41.4 | -0.09 | 39.4 | 38.8 | 0.01 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 1.6 | 0.03 | 1.6 | 1.6 | 0.01 | 9.3 | 8.9 | 0.01 | 8.6 | 8.5 | 0.00 | 3.5 | 4.6 | -0.05 | 4.2 | 3.8 | 0.02 |
| Cerebrovascular disease | 1.6 | 1.7 | 0.00 | 1.7 | 1.7 | 0.00 | 4.8 | 6.1 | -0.06 | 4.6 | 5.3 | -0.03 | 2.6 | 3.8 | -0.07 | 3.2 | 3.1 | 0.00 |
| Coronary arteriosclerosis | 8.1 | 6.4 | 0.07 | 6.5 | 6.5 | 0.00 | 25.2 | 21.8 | 0.08 | 21.7 | 21.9 | -0.01 | 11.8 | 13.5 | -0.05 | 12.8 | 12.3 | 0.02 |
| Heart disease | 17.5 | 14.5 | 0.08 | 14.6 | 14.6 | 0.00 | 42.6 | 40.0 | 0.05 | 38.5 | 39.3 | -0.02 | 23.5 | 27.2 | -0.09 | 25.4 | 24.5 | 0.02 |
| Heart failure | 1.9 | 1.5 | 0.03 | 1.5 | 1.5 | 0.00 | 6.8 | 6.5 | 0.01 | 6.4 | 5.8 | 0.02 | 3.9 | 4.9 | -0.05 | 4.3 | 4.1 | 0.01 |
| Ischemic heart disease | 4.0 | 3.3 | 0.03 | 3.3 | 3.4 | -0.01 | 10.2 | 8.6 | 0.06 | 8.6 | 8.7 | -0.01 | 6.2 | 7.1 | -0.04 | 6.7 | 6.4 | 0.01 |
| Peripheral vascular disease | 8.7 | 7.6 | 0.04 | 7.5 | 7.6 | 0.00 | 24.5 | 23.7 | 0.02 | 23.7 | 22.7 | 0.03 | 14.1 | 19.5 | -0.14 | 17.0 | 16.4 | 0.02 |
| Pulmonary embolism | 0.4 | 0.4 | -0.01 | 0.3 | 0.4 | -0.01 | 0.7 | 0.6 | 0.01 | 0.7 | 0.6 | 0.01 | 0.5 | 0.6 | -0.01 | 0.5 | 0.6 | 0.00 |
| Venous thrombosis | 1.3 | 1.2 | 0.01 | 1.1 | 1.2 | -0.01 | 2.6 | 2.7 | -0.01 | 2.4 | 2.5 | -0.01 | 1.7 | 2.1 | -0.03 | 1.8 | 1.8 | 0.00 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 0.7 | 0.00 | 0.7 | 0.7 | 0.00 | 1.3 | 1.7 | -0.03 | 1.5 | 1.5 | -0.01 | 0.8 | 1.0 | -0.02 | 0.9 | 0.9 | -0.01 |
| Malignant lymphoma | 0.3 | 0.3 | 0.01 | 0.3 | 0.3 | 0.00 | 0.6 | 0.8 | -0.02 | 0.6 | 0.8 | -0.02 | 0.4 | 0.5 | -0.01 | 0.4 | 0.4 | -0.01 |
| Malignant neoplasm of anorectum | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.01 | 0.2 | 0.3 | -0.01 | 0.2 | 0.2 | -0.01 | 0.2 | 0.2 | 0.00 | 0.2 | 0.1 | 0.01 |
| Malignant neoplastic disease | 5.3 | 4.7 | 0.02 | 4.7 | 4.8 | 0.00 | 15.7 | 16.4 | -0.02 | 15.9 | 16.2 | -0.01 | 7.1 | 9.3 | -0.08 | 8.1 | 8.0 | 0.00 |
| Malignant tumor of breast | 1.1 | 0.8 | 0.02 | 0.9 | 0.9 | 0.00 | 2.3 | 2.5 | -0.01 | 2.6 | 2.5 | 0.00 | 1.3 | 1.4 | -0.01 | 1.3 | 1.3 | 0.00 |
| Malignant tumor of colon | 0.3 | 0.3 | 0.00 | 0.3 | 0.3 | 0.01 | 0.7 | 0.9 | -0.02 | 0.8 | 0.8 | 0.00 | 0.4 | 0.5 | -0.01 | 0.5 | 0.4 | 0.02 |
| Malignant tumor of lung | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | 0.00 | 0.4 | 0.6 | -0.03 | 0.4 | 0.6 | -0.02 | 0.2 | 0.3 | -0.02 | 0.2 | 0.2 | -0.01 |
| Malignant tumor of urinary bladder | 0.1 | 0.1 | 0.01 | 0.1 | 0.1 | 0.01 | 0.9 | 0.7 | 0.02 | 1.0 | 0.7 | 0.04 | 0.2 | 0.3 | -0.02 | 0.3 | 0.2 | 0.01 |
| Primary malignant neoplasm of prostate | 0.5 | 0.5 | 0.01 | 0.5 | 0.4 | 0.01 | 3.1 | 3.0 | 0.01 | 3.2 | 3.0 | 0.01 | 0.8 | 1.2 | -0.04 | 1.0 | 1.0 | 0.00 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 67.8 | 0.09 | 68.0 | 68.1 | 0.00 | 79.1 | 76.1 | 0.07 | 77.0 | 76.3 | 0.02 | 71.7 | 71.9 | -0.01 | 71.5 | 70.9 | 0.01 |
| Antibacterials for systemic use | 57.9 | 54.2 | 0.08 | 54.0 | 54.5 | -0.01 | 61.0 | 55.4 | 0.11 | 56.6 | 56.4 | 0.00 | 55.6 | 52.1 | 0.07 | 52.4 | 52.5 | 0.00 |
| Antidepressants | 26.1 | 23.5 | 0.06 | 23.6 | 23.6 | 0.00 | 26.0 | 23.1 | 0.07 | 23.3 | 23.7 | -0.01 | 25.5 | 23.5 | 0.05 | 23.6 | 23.5 | 0.00 |
| Antiepileptics | 14.3 | 13.6 | 0.02 | 13.6 | 13.5 | 0.00 | 17.2 | 15.9 | 0.04 | 16.2 | 16.1 | 0.00 | 16.4 | 17.1 | -0.02 | 16.5 | 16.5 | 0.00 |
| Antiinflammatory and antirheumatic products | 31.2 | 30.3 | 0.02 | 30.1 | 30.1 | 0.00 | 28.0 | 25.4 | 0.06 | 26.6 | 26.3 | 0.01 | 28.7 | 26.7 | 0.05 | 27.5 | 27.4 | 0.00 |
| Antineoplastic agents | 1.9 | 1.9 | 0.00 | 1.9 | 1.9 | 0.00 | 3.6 | 3.5 | 0.01 | 3.6 | 3.5 | 0.01 | 2.2 | 2.6 | -0.03 | 2.4 | 2.4 | 0.00 |
| Antipsoriatics | 0.6 | 0.5 | 0.01 | 0.5 | 0.5 | 0.00 | 0.7 | 0.7 | 0.01 | 0.7 | 0.5 | 0.03 | 0.4 | 0.6 | -0.02 | 0.4 | 0.5 | -0.01 |
| Antithrombotic agents | 9.4 | 8.5 | 0.03 | 8.4 | 8.4 | 0.00 | 22.8 | 20.6 | 0.05 | 20.0 | 20.5 | -0.01 | 10.9 | 13.0 | -0.06 | 12.1 | 11.6 | 0.01 |
| Beta-blocking agents | 25.2 | 23.4 | 0.04 | 23.3 | 23.5 | 0.00 | 47.1 | 46.3 | 0.02 | 45.4 | 45.8 | -0.01 | 28.6 | 32.7 | -0.09 | 31.0 | 30.0 | 0.02 |
| Calcium channel blockers | 20.4 | 19.8 | 0.02 | 19.7 | 19.6 | 0.00 | 32.5 | 34.9 | -0.05 | 33.7 | 33.4 | 0.01 | 21.7 | 27.0 | -0.12 | 24.2 | 23.9 | 0.01 |
| Diuretics | 37.4 | 34.5 | 0.06 | 34.5 | 34.7 | 0.00 | 48.5 | 47.7 | 0.02 | 48.3 | 47.3 | 0.02 | 37.5 | 39.3 | -0.04 | 38.1 | 37.3 | 0.02 |
| Drugs for acid-related disorders | 24.6 | 22.1 | 0.06 | 22.3 | 22.1 | 0.00 | 32.5 | 30.2 | 0.05 | 30.1 | 30.4 | -0.01 | 23.7 | 25.6 | -0.05 | 24.9 | 24.1 | 0.02 |
| Drugs for obstructive airway diseases | 26.4 | 23.3 | 0.07 | 23.5 | 23.5 | 0.00 | 29.1 | 25.2 | 0.09 | 26.4 | 26.2 | 0.01 | 25.1 | 22.3 | 0.07 | 22.8 | 22.9 | 0.00 |
| Immunosuppressants | 2.3 | 2.1 | 0.01 | 2.1 | 2.1 | 0.00 | 3.2 | 3.1 | 0.01 | 3.2 | 3.2 | 0.00 | 2.2 | 2.1 | 0.01 | 2.2 | 2.1 | 0.01 |
| Lipid-modifying agents | 70.5 | 67.9 | 0.06 | 67.6 | 67.9 | -0.01 | 82.7 | 79.3 | 0.09 | 79.8 | 79.4 | 0.01 | 72.4 | 73.2 | -0.02 | 72.5 | 71.9 | 0.01 |
| Opioids | 21.0 | 19.8 | 0.03 | 19.5 | 19.6 | 0.00 | 23.5 | 22.2 | 0.03 | 22.6 | 22.1 | 0.01 | 18.9 | 20.3 | -0.03 | 19.6 | 19.3 | 0.01 |
| Psycholeptics | 22.3 | 20.6 | 0.04 | 20.0 | 20.6 | -0.02 | 24.8 | 23.6 | 0.03 | 23.1 | 23.6 | -0.01 | 19.9 | 19.8 | 0.00 | 19.4 | 19.4 | 0.00 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 2.8 | 0.02 | 2.9 | 2.8 | 0.00 | 1.6 | 1.3 | 0.02 | 1.2 | 1.4 | -0.02 | 2.5 | 1.4 | 0.07 | 1.8 | 1.7 | 0.01 |

TZD, thiazolidinedione; PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

**Supplemental Table 6. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of Insulin Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | Insulin, % | Std d | Canagliflozin, % | Insulin, % | Std d | Canagliflozin, % | Insulin, % | Std d | Canagliflozin, % | Insulin, % | Std d | Canagliflozin, % | Insulin, % | Std d | Canagliflozin, % | Insulin, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.2 | -0.04 | 0.1 | 0.1 | -0.01 |  |  |  |  |  |  | 0.0 | 0.1 | -0.03 | 0.0 | 0.1 | -0.02 |
| 20-24 | 0.2 | 0.7 | -0.08 | 0.3 | 0.3 | 0.00 |  |  |  |  |  |  | 0.1 | 0.3 | -0.03 | 0.2 | 0.2 | -0.01 |
| 25-29 | 0.5 | 1.4 | -0.09 | 0.7 | 0.7 | 0.00 |  |  |  |  |  |  | 0.4 | 0.7 | -0.03 | 0.5 | 0.4 | 0.01 |
| 30-34 | 1.6 | 3.3 | -0.11 | 2.0 | 2.0 | 0.00 |  |  |  |  |  |  | 1.5 | 1.6 | -0.01 | 1.7 | 1.6 | 0.01 |
| 35-39 | 4.1 | 5.7 | -0.08 | 4.6 | 4.7 | 0.00 |  |  |  |  |  |  | 3.7 | 2.9 | 0.05 | 3.6 | 3.6 | 0.00 |
| 40-44 | 8.5 | 9.0 | -0.02 | 8.8 | 8.8 | 0.00 | 0.0 | 0.0 | 0.00 |  | 0.0 |  | 7.1 | 4.4 | 0.12 | 6.4 | 6.4 | 0.00 |
| 45-49 | 14.4 | 13.2 | 0.03 | 14.1 | 14.2 | 0.00 | 0.1 | 0.0 | 0.02 | 0.1 | 0.1 | 0.01 | 11.1 | 6.5 | 0.16 | 9.7 | 9.8 | 0.00 |
| 50-54 | 20.7 | 18.4 | 0.06 | 20.0 | 20.0 | 0.00 | 0.3 | 0.2 | 0.02 | 0.2 | 0.2 | 0.01 | 15.2 | 9.2 | 0.19 | 13.0 | 13.3 | -0.01 |
| 55-59 | 24.3 | 22.2 | 0.05 | 23.6 | 23.7 | 0.00 | 1.1 | 0.7 | 0.05 | 1.1 | 0.9 | 0.02 | 17.8 | 11.1 | 0.19 | 15.6 | 15.9 | -0.01 |
| 60-64 | 23.7 | 23.5 | 0.00 | 23.7 | 23.5 | 0.00 | 2.7 | 1.9 | 0.05 | 2.6 | 2.4 | 0.01 | 15.7 | 11.6 | 0.12 | 14.6 | 14.8 | -0.01 |
| 65-69 | 1.9 | 2.3 | -0.03 | 2.0 | 2.1 | 0.00 | 40.3 | 25.3 | 0.32 | 37.1 | 38.0 | -0.02 | 12.7 | 15.4 | -0.08 | 14.9 | 14.7 | 0.01 |
| 70-74 |  |  |  |  |  |  | 31.7 | 25.0 | 0.15 | 31.1 | 31.4 | -0.01 | 8.8 | 14.6 | -0.18 | 11.4 | 11.1 | 0.01 |
| 75-79 |  |  |  |  |  |  | 14.8 | 18.8 | -0.11 | 16.5 | 16.1 | 0.01 | 3.8 | 9.7 | -0.23 | 5.4 | 5.1 | 0.01 |
| 80-84 |  |  |  |  |  |  | 6.1 | 14.0 | -0.27 | 7.5 | 7.2 | 0.01 | 1.5 | 6.6 | -0.27 | 2.2 | 2.0 | 0.01 |
| 85-89 |  |  |  |  |  |  | 2.3 | 9.2 | -0.30 | 2.9 | 2.8 | 0.01 | 0.5 | 5.0 | -0.27 | 0.8 | 0.8 | 0.01 |
| 90-94 |  |  |  |  |  |  | 0.6 | 4.0 | -0.23 | 0.7 | 0.8 | -0.01 | 0.0 | 0.4 | -0.08 | 0.0 | 0.1 | -0.02 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.8 | -0.12 | 0.1 | 0.2 | -0.04 |  |  |  |  |  |  |
| 00-04 |  |  |  |  |  |  |  | 0.1 |  |  | 0.0 |  |  |  |  |  |  |  |
| Female | 44.9 | 45.2 | -0.01 | 44.6 | 44.9 | -0.01 | 42.3 | 45.2 | -0.06 | 42.6 | 43.6 | -0.02 | 43.5 | 46.8 | -0.07 | 44.6 | 44.9 | -0.01 |
| Prior acute pancreatitis | 0.9 | 2.0 | -0.09 | 1.0 | 1.0 | 0.00 | 0.8 | 1.9 | -0.09 | 1.0 | 1.0 | -0.01 | 0.9 | 1.5 | -0.06 | 1.0 | 0.9 | 0.01 |
| Prior antidiabetic medication: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 0.7 | 0.02 | 1.0 | 0.8 | 0.01 | 1.4 | 1.3 | 0.01 | 1.5 | 1.3 | 0.01 | 1.0 | 0.9 | 0.01 | 1.1 | 0.9 | 0.02 |
| Albiglutide | 0.4 | 0.6 | -0.02 | 0.5 | 0.6 | -0.01 | 0.2 | 0.1 | 0.02 | 0.2 | 0.2 | 0.00 | 0.9 | 0.5 | 0.05 | 0.8 | 1.0 | -0.01 |
| Alogliptin | 0.7 | 0.4 | 0.05 | 0.5 | 0.5 | 0.00 | 0.5 | 0.2 | 0.05 | 0.5 | 0.3 | 0.03 | 1.5 | 0.6 | 0.09 | 1.1 | 1.1 | 0.00 |
| Chlorpropamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.1 | -0.01 | 0.0 | 0.0 | 0.01 | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.00 |
| Dapagliflozin | 3.9 | 3.1 | 0.04 | 3.7 | 3.7 | 0.00 | 2.5 | 0.9 | 0.13 | 2.1 | 2.0 | 0.00 | 4.5 | 1.0 | 0.21 | 2.4 | 2.2 | 0.01 |
| Dulaglutide | 1.3 | 1.8 | -0.04 | 1.6 | 1.8 | -0.02 | 0.8 | 0.6 | 0.02 | 0.8 | 1.1 | -0.02 | 1.0 | 0.8 | 0.02 | 1.1 | 1.1 | 0.00 |
| Empagliflozin | 1.0 | 1.8 | -0.07 | 1.4 | 1.3 | 0.00 | 0.6 | 0.6 | 0.01 | 0.6 | 0.9 | -0.03 | 1.0 | 1.1 | -0.01 | 1.3 | 1.4 | 0.00 |
| Exenatide | 13.0 | 7.4 | 0.19 | 11.5 | 9.8 | 0.05 | 9.5 | 4.5 | 0.20 | 8.8 | 7.2 | 0.06 | 9.7 | 4.4 | 0.21 | 8.7 | 6.9 | 0.07 |
| Glimepiride | 24.8 | 20.5 | 0.10 | 25.5 | 24.1 | 0.03 | 28.8 | 27.5 | 0.03 | 30.8 | 30.2 | 0.01 | 24.0 | 21.6 | 0.06 | 25.3 | 24.2 | 0.03 |
| Glipizide | 20.4 | 24.1 | -0.09 | 24.0 | 23.2 | 0.02 | 25.0 | 31.4 | -0.14 | 28.0 | 27.7 | 0.01 | 26.2 | 31.7 | -0.12 | 30.4 | 29.6 | 0.02 |
| Glyburide | 13.0 | 13.6 | -0.02 | 14.5 | 14.0 | 0.01 | 16.2 | 19.5 | -0.09 | 17.8 | 17.6 | 0.00 | 14.4 | 14.9 | -0.01 | 15.6 | 14.7 | 0.02 |
| Insulin degludec | 0.2 |  |  | 0.3 |  |  | 0.1 |  |  | 0.1 |  |  | 0.1 |  |  | 0.1 |  |  |
| Insulin detemir | 7.9 |  |  | 8.0 |  |  | 6.5 |  |  | 6.6 |  |  | 8.3 |  |  | 8.7 |  |  |
| Insulin glargine | 16.6 |  |  | 17.5 |  |  | 14.1 |  |  | 14.6 |  |  | 16.5 |  |  | 17.7 |  |  |
| Insulin lispro | 5.3 | 1.9 | 0.18 | 5.6 | 1.8 | 0.21 | 4.3 | 3.2 | 0.06 | 4.7 | 1.9 | 0.16 | 7.1 | 4.2 | 0.12 | 7.9 | 2.8 | 0.23 |
| Insulin, aspart, human | 7.5 | 3.0 | 0.20 | 8.0 | 2.5 | 0.25 | 6.2 | 3.8 | 0.11 | 6.8 | 2.2 | 0.22 | 5.7 | 3.3 | 0.12 | 6.2 | 2.0 | 0.22 |
| Insulin, glulisine, human | 1.0 |  |  | 1.0 |  |  | 0.6 |  |  | 0.6 |  |  | 0.8 |  |  | 0.7 |  |  |
| Linagliptin | 5.0 | 3.7 | 0.06 | 4.7 | 4.4 | 0.01 | 6.0 | 5.5 | 0.02 | 6.0 | 6.3 | -0.01 | 7.6 | 5.0 | 0.11 | 6.8 | 6.9 | 0.00 |
| Liraglutide | 16.7 | 10.4 | 0.19 | 15.4 | 14.1 | 0.04 | 13.0 | 5.9 | 0.24 | 11.8 | 11.1 | 0.02 | 14.3 | 7.1 | 0.24 | 12.9 | 11.8 | 0.03 |
| Lixisenatide | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  |
| Metformin | 90.0 | 76.2 | 0.37 | 88.2 | 85.1 | 0.09 | 86.2 | 71.9 | 0.36 | 84.4 | 83.7 | 0.02 | 88.4 | 72.3 | 0.42 | 86.4 | 84.0 | 0.07 |
| Miglitol | 0.1 | 0.1 | 0.02 | 0.1 | 0.1 | 0.01 | 0.2 | 0.1 | 0.02 | 0.3 | 0.1 | 0.04 | 0.1 | 0.1 | 0.01 | 0.1 | 0.0 | 0.01 |
| Nateglinide | 1.4 | 1.0 | 0.04 | 1.4 | 1.2 | 0.02 | 2.5 | 2.4 | 0.01 | 2.7 | 2.4 | 0.02 | 1.2 | 1.1 | 0.01 | 1.2 | 1.1 | 0.01 |
| Pioglitazone | 20.7 | 15.1 | 0.15 | 19.9 | 18.4 | 0.04 | 24.8 | 22.3 | 0.06 | 25.6 | 24.4 | 0.03 | 21.5 | 16.2 | 0.14 | 20.9 | 18.9 | 0.05 |
| Pramlintide | 0.4 | 0.1 | 0.07 | 0.4 | 0.1 | 0.06 | 0.4 | 0.1 | 0.07 | 0.4 | 0.1 | 0.06 | 0.3 | 0.0 | 0.07 | 0.3 | 0.0 | 0.06 |
| Regular insulin, human | 1.9 | 2.6 | -0.05 | 2.3 | 1.9 | 0.03 | 1.5 | 3.6 | -0.13 | 1.8 | 1.5 | 0.02 | 2.5 | 4.7 | -0.12 | 2.9 | 2.5 | 0.02 |
| Repaglinide | 1.5 | 1.2 | 0.03 | 1.6 | 1.3 | 0.02 | 2.8 | 3.0 | -0.01 | 2.8 | 2.8 | 0.00 | 1.4 | 1.3 | 0.00 | 1.4 | 1.3 | 0.00 |
| Rosiglitazone | 5.2 | 3.3 | 0.09 | 5.0 | 4.0 | 0.05 | 5.4 | 6.5 | -0.05 | 6.2 | 5.8 | 0.01 | 5.2 | 3.6 | 0.08 | 4.9 | 3.8 | 0.06 |
| Saxagliptin | 10.3 | 6.0 | 0.16 | 8.7 | 8.0 | 0.03 | 9.6 | 5.7 | 0.15 | 8.7 | 8.4 | 0.01 | 14.2 | 7.6 | 0.21 | 12.1 | 11.5 | 0.02 |
| Sitagliptin | 35.7 | 26.6 | 0.20 | 34.5 | 32.5 | 0.04 | 42.7 | 32.7 | 0.21 | 42.1 | 40.5 | 0.03 | 29.4 | 22.8 | 0.15 | 29.1 | 26.7 | 0.05 |
| Tolazamide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.01 | 0.0 | 0.1 | -0.03 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.01 |
| Tolbutamide | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |  | 0.0 |  |
| Medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 27.2 | 0.01 | 26.2 | 26.2 | 0.00 | 23.8 | 29.2 | -0.12 | 22.9 | 23.0 | 0.00 | 26.5 | 29.0 | -0.06 | 25.1 | 25.2 | 0.00 |
| Attention deficit hyperactivity disorder | 1.0 | 0.9 | 0.01 | 1.0 | 0.9 | 0.00 | 0.2 | 0.2 | 0.01 | 0.2 | 0.2 | 0.00 | 1.0 | 0.6 | 0.04 | 0.8 | 0.8 | 0.00 |
| Chronic liver disease | 4.3 | 5.0 | -0.03 | 4.2 | 4.2 | 0.00 | 3.1 | 3.2 | 0.00 | 3.2 | 3.0 | 0.01 | 4.2 | 4.7 | -0.02 | 4.1 | 4.1 | 0.00 |
| Chronic obstructive lung disease | 2.4 | 4.6 | -0.12 | 2.8 | 2.8 | 0.00 | 9.6 | 19.8 | -0.29 | 10.5 | 10.4 | 0.00 | 5.3 | 14.6 | -0.32 | 6.7 | 6.6 | 0.00 |
| Crohn’s disease | 0.3 | 0.4 | -0.02 | 0.3 | 0.3 | -0.01 | 0.3 | 0.5 | -0.03 | 0.3 | 0.4 | -0.02 | 0.3 | 0.5 | -0.03 | 0.3 | 0.3 | -0.01 |
| Dementia | 0.2 | 0.3 | -0.03 | 0.2 | 0.2 | 0.00 | 1.5 | 10.6 | -0.39 | 1.9 | 1.8 | 0.01 | 0.6 | 6.1 | -0.31 | 0.9 | 0.9 | 0.01 |
| Depressive disorder | 10.0 | 12.1 | -0.07 | 10.6 | 10.6 | 0.00 | 8.2 | 14.3 | -0.19 | 8.8 | 8.8 | 0.00 | 12.4 | 18.4 | -0.17 | 13.7 | 13.7 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 12.3 | -0.03 | 11.2 | 11.1 | 0.00 | 14.8 | 17.2 | -0.07 | 14.2 | 14.2 | 0.00 | 14.9 | 20.0 | -0.14 | 15.7 | 15.5 | 0.00 |
| Gastrointestinal hemorrhage | 1.5 | 2.5 | -0.07 | 1.6 | 1.6 | 0.00 | 2.5 | 6.3 | -0.18 | 2.7 | 2.5 | 0.02 | 1.8 | 4.4 | -0.15 | 2.0 | 1.9 | 0.01 |
| Human immunodeficiency virus infection | 0.2 | 0.4 | -0.04 | 0.2 | 0.2 | -0.01 | 0.1 | 0.1 | -0.01 | 0.1 | 0.1 | -0.02 | 0.2 | 0.4 | -0.03 | 0.3 | 0.3 | -0.01 |
| Hyperlipidemia | 75.3 | 64.3 | 0.24 | 71.1 | 71.5 | -0.01 | 76.7 | 69.4 | 0.17 | 74.1 | 75.0 | -0.02 | 81.3 | 75.9 | 0.13 | 78.7 | 79.3 | -0.01 |
| Hypertensive disorder | 72.8 | 69.3 | 0.08 | 70.8 | 70.6 | 0.00 | 82.8 | 83.7 | -0.02 | 81.4 | 81.7 | -0.01 | 78.5 | 82.0 | -0.09 | 78.5 | 78.6 | 0.00 |
| Lesion of liver | 0.6 | 2.3 | -0.14 | 0.8 | 0.8 | 0.00 | 0.9 | 3.3 | -0.16 | 1.2 | 1.3 | -0.01 | 0.8 | 3.0 | -0.16 | 1.1 | 1.1 | 0.00 |
| Obesity | 22.5 | 24.3 | -0.04 | 22.4 | 22.3 | 0.00 | 17.4 | 15.9 | 0.04 | 16.4 | 16.5 | 0.00 | 28.2 | 26.3 | 0.04 | 26.5 | 26.8 | -0.01 |
| Osteoarthritis | 16.8 | 17.1 | -0.01 | 16.8 | 16.6 | 0.00 | 30.3 | 33.9 | -0.08 | 29.2 | 29.8 | -0.01 | 21.1 | 28.4 | -0.17 | 22.4 | 22.3 | 0.00 |
| Pneumonia | 1.9 | 4.7 | -0.16 | 2.2 | 2.2 | 0.00 | 3.3 | 15.0 | -0.42 | 3.9 | 3.7 | 0.01 | 2.3 | 10.2 | -0.33 | 2.9 | 2.9 | 0.00 |
| Psoriasis | 1.4 | 1.4 | 0.01 | 1.4 | 1.4 | 0.00 | 1.8 | 1.4 | 0.03 | 1.7 | 1.6 | 0.01 | 1.5 | 1.5 | 0.00 | 1.6 | 1.6 | 0.00 |
| Renal impairment | 3.6 | 12.1 | -0.32 | 4.8 | 4.6 | 0.01 | 10.7 | 37.0 | -0.65 | 13.5 | 12.8 | 0.02 | 8.7 | 29.8 | -0.55 | 11.6 | 11.0 | 0.02 |
| Rheumatoid arthritis | 1.0 | 1.2 | -0.02 | 1.1 | 1.1 | 0.00 | 1.6 | 2.3 | -0.05 | 1.6 | 1.6 | 0.01 | 1.3 | 2.2 | -0.07 | 1.6 | 1.5 | 0.00 |
| Schizophrenia | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | 0.00 | 0.1 | 0.3 | -0.06 | 0.1 | 0.1 | -0.02 | 0.3 | 0.7 | -0.06 | 0.4 | 0.3 | 0.01 |
| Ulcerative colitis | 0.3 | 0.5 | -0.02 | 0.3 | 0.3 | 0.00 | 0.5 | 0.7 | -0.03 | 0.5 | 0.6 | -0.01 | 0.3 | 0.5 | -0.03 | 0.3 | 0.4 | -0.01 |
| Urinary tract infectious disease | 6.8 | 9.1 | -0.08 | 7.2 | 7.1 | 0.00 | 8.6 | 19.8 | -0.33 | 9.2 | 9.2 | 0.00 | 8.5 | 17.5 | -0.27 | 9.5 | 9.4 | 0.00 |
| Viral hepatitis C | 0.3 | 1.0 | -0.08 | 0.4 | 0.4 | 0.00 | 0.3 | 0.6 | -0.05 | 0.3 | 0.4 | -0.03 | 0.6 | 1.3 | -0.08 | 0.7 | 0.7 | 0.00 |
| Visual system disorder | 28.0 | 26.4 | 0.04 | 26.9 | 26.8 | 0.00 | 55.5 | 52.0 | 0.07 | 53.8 | 54.7 | -0.02 | 36.8 | 42.1 | -0.11 | 38.6 | 38.3 | 0.01 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 3.4 | -0.09 | 2.1 | 2.1 | 0.00 | 9.3 | 20.6 | -0.32 | 10.2 | 9.8 | 0.01 | 3.5 | 11.3 | -0.30 | 4.4 | 4.2 | 0.01 |
| Cerebrovascular disease | 1.6 | 3.6 | -0.12 | 2.0 | 1.9 | 0.01 | 4.8 | 13.1 | -0.29 | 5.4 | 5.2 | 0.01 | 2.6 | 9.1 | -0.28 | 3.3 | 3.2 | 0.01 |
| Coronary arteriosclerosis | 8.1 | 11.0 | -0.10 | 8.6 | 8.4 | 0.01 | 25.2 | 35.4 | -0.22 | 26.1 | 25.4 | 0.02 | 11.8 | 23.5 | -0.31 | 13.7 | 13.5 | 0.00 |
| Heart disease | 17.5 | 24.4 | -0.17 | 18.2 | 17.8 | 0.01 | 42.6 | 61.2 | -0.38 | 44.1 | 43.4 | 0.01 | 23.5 | 43.7 | -0.44 | 26.7 | 26.2 | 0.01 |
| Heart failure | 1.9 | 5.7 | -0.20 | 2.4 | 2.4 | 0.00 | 6.8 | 24.5 | -0.50 | 8.3 | 8.0 | 0.01 | 3.9 | 16.5 | -0.42 | 5.2 | 5.0 | 0.01 |
| Ischemic heart disease | 4.0 | 7.2 | -0.14 | 4.5 | 4.4 | 0.01 | 10.2 | 19.2 | -0.26 | 10.7 | 10.8 | 0.00 | 6.2 | 14.9 | -0.29 | 7.4 | 7.2 | 0.01 |
| Peripheral vascular disease | 8.7 | 11.8 | -0.10 | 8.8 | 8.7 | 0.00 | 24.5 | 38.2 | -0.30 | 25.6 | 25.0 | 0.01 | 14.1 | 28.4 | -0.35 | 16.5 | 16.2 | 0.01 |
| Pulmonary embolism | 0.4 | 1.1 | -0.09 | 0.4 | 0.5 | 0.00 | 0.7 | 2.4 | -0.13 | 0.9 | 0.8 | 0.00 | 0.5 | 1.7 | -0.11 | 0.6 | 0.6 | 0.00 |
| Venous thrombosis | 1.3 | 2.7 | -0.10 | 1.5 | 1.5 | 0.00 | 2.6 | 6.7 | -0.20 | 2.8 | 2.7 | 0.01 | 1.7 | 4.7 | -0.18 | 2.0 | 1.9 | 0.00 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 1.7 | -0.09 | 0.8 | 0.8 | 0.00 | 1.3 | 3.8 | -0.16 | 1.4 | 1.5 | -0.01 | 0.8 | 2.5 | -0.13 | 1.0 | 1.0 | 0.01 |
| Malignant lymphoma | 0.3 | 0.7 | -0.05 | 0.4 | 0.4 | 0.00 | 0.6 | 1.6 | -0.09 | 0.7 | 0.8 | -0.01 | 0.4 | 1.0 | -0.07 | 0.4 | 0.4 | 0.00 |
| Malignant neoplasm of anorectum | 0.1 | 0.3 | -0.03 | 0.1 | 0.1 | 0.00 | 0.2 | 0.6 | -0.06 | 0.3 | 0.3 | -0.01 | 0.2 | 0.4 | -0.04 | 0.2 | 0.2 | 0.01 |
| Malignant neoplastic disease | 5.3 | 7.9 | -0.11 | 5.5 | 5.4 | 0.00 | 15.7 | 23.1 | -0.19 | 16.1 | 15.9 | 0.01 | 7.1 | 13.6 | -0.22 | 8.0 | 7.9 | 0.00 |
| Malignant tumor of breast | 1.1 | 1.3 | -0.02 | 1.1 | 1.1 | 0.00 | 2.3 | 2.9 | -0.04 | 2.4 | 2.4 | 0.00 | 1.3 | 1.8 | -0.04 | 1.4 | 1.3 | 0.01 |
| Malignant tumor of colon | 0.3 | 0.5 | -0.04 | 0.3 | 0.3 | 0.01 | 0.7 | 1.4 | -0.07 | 0.8 | 0.7 | 0.02 | 0.4 | 0.9 | -0.07 | 0.5 | 0.4 | 0.01 |
| Malignant tumor of lung | 0.1 | 0.7 | -0.09 | 0.1 | 0.1 | 0.00 | 0.4 | 2.0 | -0.14 | 0.5 | 0.5 | 0.00 | 0.2 | 1.3 | -0.13 | 0.3 | 0.2 | 0.00 |
| Malignant tumor of urinary bladder | 0.1 | 0.3 | -0.03 | 0.1 | 0.2 | -0.01 | 0.9 | 1.6 | -0.06 | 1.0 | 1.0 | 0.01 | 0.2 | 0.6 | -0.07 | 0.2 | 0.3 | 0.00 |
| Primary malignant neoplasm of prostate | 0.5 | 0.5 | 0.00 | 0.5 | 0.5 | 0.00 | 3.1 | 3.4 | -0.02 | 3.2 | 2.9 | 0.02 | 0.8 | 1.5 | -0.07 | 0.9 | 0.9 | 0.00 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 64.5 | 0.16 | 69.6 | 69.5 | 0.00 | 79.1 | 72.7 | 0.15 | 77.5 | 78.3 | -0.02 | 71.7 | 68.2 | 0.07 | 70.8 | 70.8 | 0.00 |
| Antibacterials for systemic use | 57.9 | 58.7 | -0.02 | 57.1 | 56.6 | 0.01 | 61.0 | 64.8 | -0.08 | 59.9 | 60.2 | -0.01 | 55.6 | 59.7 | -0.08 | 55.3 | 55.2 | 0.00 |
| Antidepressants | 26.1 | 26.5 | -0.01 | 26.5 | 26.4 | 0.00 | 26.0 | 31.2 | -0.12 | 26.1 | 26.1 | 0.00 | 25.5 | 30.0 | -0.10 | 26.4 | 26.4 | 0.00 |
| Antiepileptics | 14.3 | 16.3 | -0.05 | 14.8 | 14.8 | 0.00 | 17.2 | 22.1 | -0.12 | 17.7 | 17.8 | 0.00 | 16.4 | 22.7 | -0.16 | 18.2 | 18.3 | 0.00 |
| Antiinflammatory and antirheumatic products | 31.2 | 29.4 | 0.04 | 30.0 | 29.8 | 0.00 | 28.0 | 23.1 | 0.11 | 26.3 | 26.9 | -0.01 | 28.7 | 25.6 | 0.07 | 27.7 | 28.0 | -0.01 |
| Antineoplastic agents | 1.9 | 3.3 | -0.09 | 1.9 | 1.9 | 0.00 | 3.6 | 6.0 | -0.11 | 3.8 | 3.6 | 0.01 | 2.2 | 4.3 | -0.12 | 2.6 | 2.4 | 0.01 |
| Antipsoriatics | 0.6 | 0.8 | -0.03 | 0.5 | 0.5 | 0.00 | 0.7 | 1.7 | -0.09 | 0.8 | 0.7 | 0.01 | 0.4 | 1.1 | -0.08 | 0.4 | 0.5 | 0.00 |
| Antithrombotic agents | 9.4 | 15.6 | -0.19 | 10.6 | 10.4 | 0.01 | 22.8 | 36.7 | -0.31 | 24.2 | 24.1 | 0.00 | 10.9 | 23.6 | -0.34 | 13.2 | 12.8 | 0.01 |
| Beta-blocking agents | 25.2 | 29.3 | -0.09 | 25.8 | 25.6 | 0.00 | 47.1 | 57.7 | -0.21 | 48.5 | 48.4 | 0.00 | 28.6 | 42.0 | -0.28 | 31.4 | 30.9 | 0.01 |
| Calcium channel blockers | 20.4 | 21.5 | -0.03 | 20.2 | 19.9 | 0.01 | 32.5 | 39.7 | -0.15 | 33.3 | 33.4 | 0.00 | 21.7 | 29.5 | -0.18 | 22.9 | 22.7 | 0.01 |
| Diuretics | 37.4 | 36.6 | 0.02 | 36.4 | 36.4 | 0.00 | 48.5 | 57.5 | -0.18 | 49.0 | 49.4 | -0.01 | 37.5 | 45.9 | -0.17 | 38.7 | 38.4 | 0.01 |
| Drugs for acid-related disorders | 24.6 | 25.1 | -0.01 | 23.6 | 23.6 | 0.00 | 32.5 | 38.6 | -0.13 | 31.9 | 32.1 | 0.00 | 23.7 | 32.1 | -0.19 | 25.0 | 24.9 | 0.00 |
| Drugs for obstructive airway diseases | 26.4 | 24.6 | 0.04 | 24.6 | 24.7 | 0.00 | 29.1 | 32.0 | -0.06 | 28.0 | 28.5 | -0.01 | 25.1 | 27.7 | -0.06 | 24.7 | 24.7 | 0.00 |
| Immunosuppressants | 2.3 | 3.4 | -0.07 | 2.3 | 2.3 | 0.00 | 3.2 | 4.5 | -0.06 | 3.2 | 3.3 | -0.01 | 2.2 | 3.4 | -0.07 | 2.4 | 2.3 | 0.00 |
| Lipid-modifying agents | 70.5 | 60.9 | 0.20 | 67.2 | 67.5 | -0.01 | 82.7 | 76.7 | 0.15 | 80.6 | 81.3 | -0.02 | 72.4 | 67.8 | 0.10 | 70.4 | 70.6 | 0.00 |
| Opioids | 21.0 | 26.7 | -0.13 | 22.0 | 21.8 | 0.01 | 23.5 | 30.9 | -0.17 | 24.3 | 24.4 | 0.00 | 18.9 | 28.7 | -0.23 | 21.1 | 21.0 | 0.00 |
| Psycholeptics | 22.3 | 25.0 | -0.06 | 22.6 | 22.4 | 0.00 | 24.8 | 31.3 | -0.15 | 25.0 | 25.0 | 0.00 | 19.9 | 26.7 | -0.16 | 20.8 | 20.8 | 0.00 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 3.1 | 0.01 | 3.1 | 3.1 | 0.00 | 1.6 | 1.2 | 0.03 | 1.4 | 1.3 | 0.01 | 2.5 | 1.8 | 0.05 | 2.2 | 2.2 | 0.00 |

PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

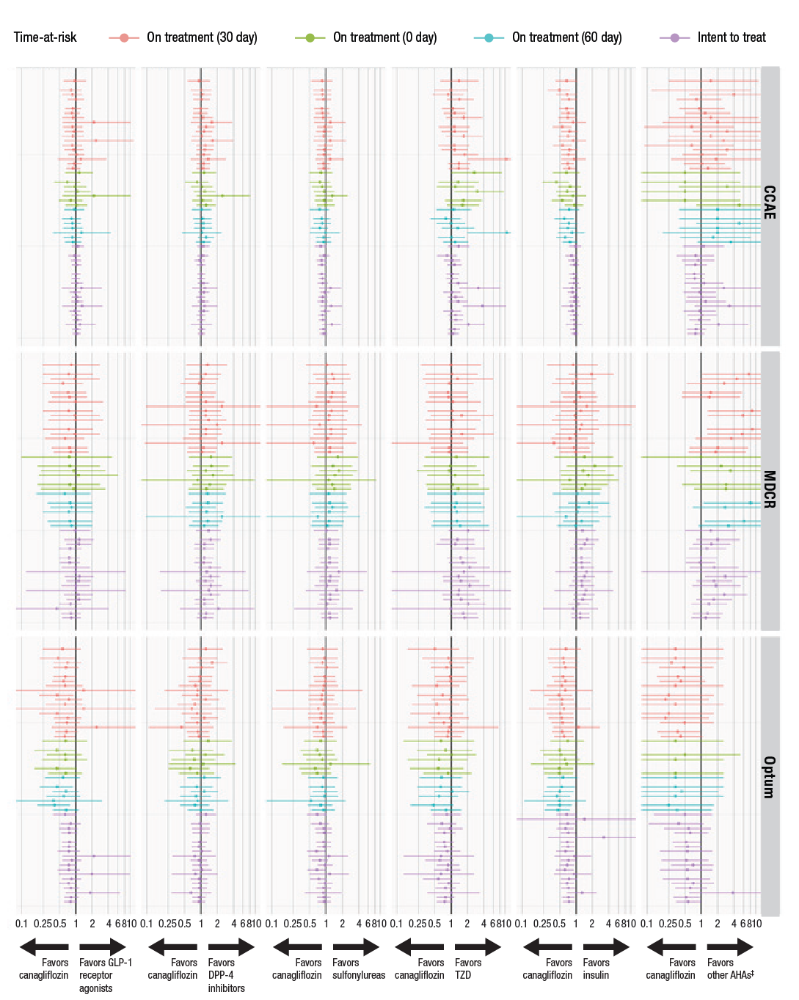
**Supplemental Table 7. Comparison of Baseline Covariates Between New Users of Canagliflozin and New Users of Other AHAs† Before and After PS Matching Across Three Databases**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | CCAE | | | | | | MDCR | | | | | | Optum | | | | | |
|  | Before matching | | | After matching | | | Before matching | | | After matching | | | Before matching | | | After matching | | |
|  | Canagliflozin, % | Other AHAs\*, % | Std d | Canagliflozin, % | Other AHAs\*, % | Std d | Canagliflozin, % | Other AHAs\*, % | Std d | Canagliflozin, % | Other AHAs\*, % | Std d | Canagliflozin, % | Other AHAs\*, % | Std d | Canagliflozin, % | Other AHAs\*, % | Std d |
| Age group, y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15-19 | 0.0 | 0.1 | -0.01 | 0.0 | 0.0 | 0.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 20-24 | 0.2 | 0.2 | 0.01 | 0.3 | 0.2 | 0.03 |  |  |  |  |  |  | 0.1 | 0.1 | 0.02 | 0.1 | 0.1 | 0.00 |
| 25-29 | 0.5 | 0.5 | 0.00 | 0.5 | 0.5 | 0.00 |  |  |  |  |  |  | 0.4 | 0.1 | 0.05 | 0.4 | 0.2 | 0.05 |
| 30-34 | 1.6 | 1.5 | 0.01 | 1.5 | 1.5 | 0.00 |  |  |  |  |  |  | 1.5 | 0.6 | 0.09 | 0.7 | 0.6 | 0.01 |
| 35-39 | 4.1 | 2.9 | 0.06 | 2.8 | 3.0 | -0.01 |  |  |  |  |  |  | 3.7 | 1.3 | 0.16 | 1.5 | 1.5 | 0.00 |
| 40-44 | 8.5 | 6.1 | 0.09 | 6.0 | 6.2 | -0.01 |  |  |  |  |  |  | 7.1 | 2.6 | 0.21 | 2.7 | 3.0 | -0.02 |
| 45-49 | 14.4 | 11.1 | 0.10 | 11.1 | 11.4 | -0.01 |  |  |  |  |  |  | 11.1 | 4.1 | 0.27 | 4.5 | 4.9 | -0.02 |
| 50-54 | 20.7 | 18.4 | 0.06 | 18.1 | 18.5 | -0.01 | 0.3 | 0.1 | 0.05 | 0.1 | 0.1 | 0.01 | 15.2 | 6.0 | 0.30 | 6.4 | 7.1 | -0.03 |
| 55-59 | 24.3 | 24.5 | 0.00 | 24.2 | 24.6 | -0.01 | 1.1 | 0.4 | 0.09 | 0.9 | 0.4 | 0.06 | 17.8 | 8.4 | 0.28 | 9.6 | 9.9 | -0.01 |
| 60-64 | 23.7 | 31.5 | -0.17 | 32.3 | 30.9 | 0.03 | 2.7 | 1.3 | 0.09 | 2.5 | 1.5 | 0.07 | 15.7 | 9.6 | 0.18 | 10.1 | 11.1 | -0.03 |
| 65-69 | 1.9 | 3.4 | -0.09 | 3.2 | 3.2 | 0.00 | 40.3 | 22.2 | 0.40 | 25.5 | 27.6 | -0.05 | 12.7 | 16.5 | -0.11 | 17.3 | 18.1 | -0.02 |
| 70-74 |  |  |  |  |  |  | 31.8 | 25.4 | 0.14 | 28.9 | 29.7 | -0.02 | 8.8 | 18.5 | -0.29 | 19.5 | 19.2 | 0.01 |
| 75-79 |  |  |  |  |  |  | 14.8 | 18.2 | -0.09 | 18.3 | 18.8 | -0.01 | 3.8 | 14.2 | -0.37 | 14.7 | 13.0 | 0.05 |
| 80-84 |  |  |  |  |  |  | 6.1 | 16.4 | -0.33 | 14.4 | 13.0 | 0.04 | 1.5 | 10.1 | -0.38 | 8.1 | 7.2 | 0.03 |
| 85-89 |  |  |  |  |  |  | 2.3 | 10.7 | -0.35 | 6.9 | 5.9 | 0.04 | 0.5 | 7.6 | -0.36 | 4.3 | 3.8 | 0.03 |
| 90-94 |  |  |  |  |  |  | 0.6 | 4.6 | -0.25 | 2.5 | 2.3 | 0.01 | 0.0 | 0.4 | -0.08 | 0.0 | 0.4 | -0.08 |
| 95-99 |  |  |  |  |  |  | 0.0 | 0.8 | -0.11 | 0.1 | 0.6 | -0.08 |  |  |  |  |  |  |
| 100-104 |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |  |  |  |  |  |  |
| Female | 44.9 | 47.5 | -0.05 | 47.7 | 47.5 | 0.00 | 42.3 | 49.3 | -0.14 | 50.0 | 48.8 | 0.03 | 43.5 | 50.6 | -0.14 | 50.3 | 49.8 | 0.01 |
| Prior acute pancreatitis | 0.9 | 1.3 | -0.04 | 1.1 | 1.2 | 0.00 | 0.8 | 1.4 | -0.06 | 1.4 | 1.1 | 0.03 | 0.9 | 0.9 | -0.01 | 0.9 | 0.9 | 0.01 |
| Prior antidiabetic medication: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acarbose | 0.9 | 1.8 | -0.08 | 2.7 | 1.6 | 0.08 | 1.4 | 2.4 | -0.07 | 2.5 | 2.0 | 0.03 | 1.0 | 2.7 | -0.12 | 3.2 | 2.3 | 0.05 |
| Albiglutide | 0.4 | 0.5 | 0.00 | 0.5 | 0.5 | 0.00 | 0.2 | 0.1 | 0.03 | 0.1 | 0.1 | 0.01 | 0.9 | 0.3 | 0.08 | 0.3 | 0.4 | -0.01 |
| Alogliptin | 0.7 | 0.6 | 0.01 | 0.9 | 0.6 | 0.04 | 0.5 | 0.4 | 0.01 | 0.4 | 0.5 | -0.02 | 1.5 | 0.7 | 0.08 | 1.1 | 0.8 | 0.03 |
| Chlorpropamide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.00 | 0.0 | 0.0 | 0.00 | 0.1 | 0.0 | 0.02 | 0.0 | 0.0 | -0.01 |  | 0.0 |  |
| Dapagliflozin | 3.9 | 4.0 | 0.00 | 4.0 | 4.0 | 0.00 | 2.5 | 0.9 | 0.12 | 1.9 | 1.2 | 0.06 | 4.5 | 1.2 | 0.20 | 1.6 | 1.4 | 0.02 |
| Dulaglutide | 1.3 | 1.6 | -0.03 | 1.2 | 1.7 | -0.04 | 0.8 | 0.6 | 0.03 | 0.5 | 0.7 | -0.02 | 1.0 | 0.6 | 0.04 | 0.8 | 0.7 | 0.01 |
| Empagliflozin | 1.0 | 2.5 | -0.12 | 2.2 | 2.4 | -0.01 | 0.6 | 0.9 | -0.03 | 0.7 | 1.1 | -0.03 | 1.0 | 1.4 | -0.03 | 1.3 | 1.6 | -0.03 |
| Exenatide | 13.0 | 7.4 | 0.18 | 9.5 | 7.6 | 0.07 | 9.5 | 3.9 | 0.23 | 5.7 | 4.8 | 0.04 | 9.7 | 3.7 | 0.24 | 6.1 | 4.2 | 0.08 |
| Glimepiride | 24.8 | 21.3 | 0.08 | 23.2 | 21.6 | 0.04 | 28.8 | 25.8 | 0.07 | 28.2 | 26.0 | 0.05 | 24.0 | 24.7 | -0.02 | 25.9 | 24.3 | 0.04 |
| Glipizide | 20.4 | 22.1 | -0.04 | 22.5 | 21.9 | 0.02 | 25.0 | 25.3 | -0.01 | 26.7 | 24.7 | 0.05 | 26.2 | 32.0 | -0.13 | 33.5 | 31.2 | 0.05 |
| Glyburide | 13.0 | 13.1 | 0.00 | 13.6 | 13.2 | 0.01 | 16.2 | 16.9 | -0.02 | 17.4 | 16.3 | 0.03 | 14.4 | 15.5 | -0.03 | 16.7 | 15.2 | 0.04 |
| Insulin degludec | 0.2 | 0.6 | -0.06 | 0.4 | 0.6 | -0.02 | 0.1 | 0.1 | 0.03 | 0.2 | 0.0 | 0.04 | 0.1 | 0.1 | 0.00 | 0.1 | 0.1 | 0.01 |
| Insulin detemir | 7.9 | 6.6 | 0.05 | 7.0 | 6.6 | 0.02 | 6.5 | 5.8 | 0.03 | 6.5 | 5.8 | 0.03 | 8.3 | 6.3 | 0.08 | 7.1 | 6.3 | 0.03 |
| Insulin glargine | 16.6 | 15.5 | 0.03 | 16.8 | 15.4 | 0.04 | 14.1 | 14.2 | 0.00 | 13.9 | 13.6 | 0.01 | 16.5 | 16.0 | 0.01 | 16.0 | 16.0 | 0.00 |
| Insulin lispro | 5.3 | 3.4 | 0.09 | 3.6 | 3.3 | 0.02 | 4.3 | 3.5 | 0.04 | 3.7 | 2.9 | 0.05 | 7.1 | 4.9 | 0.09 | 5.3 | 4.7 | 0.03 |
| Insulin, aspart, human | 7.5 | 4.8 | 0.11 | 4.7 | 4.9 | -0.01 | 6.2 | 5.1 | 0.05 | 5.6 | 4.5 | 0.05 | 5.7 | 3.8 | 0.09 | 4.5 | 3.7 | 0.04 |
| Insulin, glulisine, human | 1.0 | 0.4 | 0.06 | 0.6 | 0.4 | 0.02 | 0.6 | 0.4 | 0.04 | 0.4 | 0.5 | -0.01 | 0.8 | 0.3 | 0.06 | 0.4 | 0.3 | 0.02 |
| Linagliptin | 5.0 | 5.5 | -0.02 | 6.2 | 5.4 | 0.03 | 6.0 | 6.7 | -0.03 | 6.6 | 6.7 | -0.01 | 7.6 | 6.5 | 0.04 | 7.1 | 6.3 | 0.03 |
| Liraglutide | 16.7 | 9.0 | 0.23 | 10.6 | 9.1 | 0.05 | 13.0 | 4.3 | 0.31 | 6.0 | 5.4 | 0.03 | 14.3 | 6.0 | 0.28 | 8.0 | 6.9 | 0.04 |
| Lixisenatide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.01 |  |  |  |  |  |  | 0.0 | 0.0 | -0.01 |  | 0.0 |  |
| Metformin | 90.0 | 84.3 | 0.17 | 86.5 | 85.5 | 0.03 | 86.2 | 72.0 | 0.35 | 78.8 | 78.2 | 0.02 | 88.4 | 77.1 | 0.30 | 83.4 | 81.4 | 0.05 |
| Miglitol | 0.1 |  |  | 0.7 |  |  | 0.2 |  |  | 0.6 |  |  | 0.1 |  |  | 0.2 |  |  |
| Nateglinide | 1.4 |  |  | 1.7 |  |  | 2.5 |  |  | 3.6 |  |  | 1.2 |  |  | 1.8 |  |  |
| Pioglitazone | 20.7 | 17.8 | 0.08 | 20.3 | 17.7 | 0.07 | 24.8 | 21.0 | 0.09 | 23.2 | 21.6 | 0.04 | 21.5 | 18.5 | 0.07 | 22.7 | 18.9 | 0.09 |
| Pramlintide | 0.4 | 0.1 | 0.07 | 0.4 | 0.1 | 0.06 | 0.4 | 0.1 | 0.06 | 0.4 | 0.2 | 0.04 | 0.3 | 0.1 | 0.04 | 0.2 | 0.1 | 0.03 |
| Regular insulin, human | 1.9 | 1.4 | 0.04 | 1.2 | 1.4 | -0.02 | 1.5 | 1.4 | 0.01 | 1.7 | 1.0 | 0.06 | 2.5 | 2.1 | 0.03 | 2.1 | 1.9 | 0.01 |
| Repaglinide | 1.5 |  |  | 2.3 |  |  | 2.8 |  |  | 4.0 |  |  | 1.4 |  |  | 2.2 |  |  |
| Rosiglitazone | 5.2 | 4.1 | 0.05 | 5.2 | 4.1 | 0.05 | 5.4 | 4.5 | 0.04 | 7.7 | 4.5 | 0.13 | 5.2 | 4.0 | 0.05 | 5.4 | 3.9 | 0.07 |
| Saxagliptin | 10.3 | 7.9 | 0.08 | 9.4 | 8.0 | 0.05 | 9.6 | 7.0 | 0.10 | 9.0 | 7.6 | 0.05 | 14.2 | 9.0 | 0.16 | 10.8 | 9.7 | 0.04 |
| Sitagliptin | 35.7 | 35.0 | 0.01 | 37.3 | 35.1 | 0.05 | 42.7 | 37.8 | 0.10 | 41.7 | 39.4 | 0.05 | 29.4 | 31.2 | -0.04 | 34.6 | 31.3 | 0.07 |
| Tolazamide | 0.0 | 0.0 | -0.01 | 0.0 | 0.0 | 0.02 | 0.0 | 0.0 | -0.02 |  | 0.0 |  | 0.0 | 0.0 | -0.01 | 0.1 | 0.0 | 0.03 |
| Tolbutamide |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.0 |  |  | 0.0 |  |
| Medical history: General |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Acute respiratory disease | 27.6 | 27.0 | 0.01 | 26.8 | 26.7 | 0.00 | 23.8 | 26.2 | -0.06 | 25.1 | 23.6 | 0.04 | 26.5 | 26.4 | 0.00 | 25.1 | 25.2 | 0.00 |
| Attention deficit hyperactivity disorder | 1.0 | 0.8 | 0.02 | 0.7 | 0.8 | -0.02 | 0.2 | 0.1 | 0.04 | 0.2 | 0.1 | 0.03 | 1.0 | 0.4 | 0.07 | 0.3 | 0.5 | -0.02 |
| Chronic liver disease | 4.3 | 5.4 | -0.05 | 5.1 | 5.1 | 0.00 | 3.1 | 2.2 | 0.06 | 3.1 | 2.2 | 0.05 | 4.2 | 4.0 | 0.01 | 4.5 | 3.9 | 0.03 |
| Chronic obstructive lung disease | 2.4 | 4.1 | -0.10 | 3.5 | 3.7 | -0.01 | 9.6 | 14.2 | -0.14 | 12.9 | 11.3 | 0.05 | 5.3 | 11.7 | -0.23 | 10.2 | 9.6 | 0.02 |
| Crohn’s disease | 0.3 | 0.4 | -0.02 | 0.4 | 0.3 | 0.01 | 0.3 | 0.6 | -0.04 | 0.5 | 0.5 | -0.01 | 0.3 | 0.5 | -0.04 | 0.5 | 0.5 | -0.01 |
| Dementia | 0.2 | 0.2 | -0.01 | 0.3 | 0.2 | 0.01 | 1.5 | 6.3 | -0.25 | 4.2 | 3.4 | 0.04 | 0.6 | 4.8 | -0.26 | 2.9 | 2.6 | 0.01 |
| Depressive disorder | 10.0 | 10.2 | -0.01 | 9.8 | 9.9 | 0.00 | 8.2 | 9.5 | -0.05 | 8.8 | 8.2 | 0.02 | 12.4 | 13.8 | -0.04 | 13.4 | 13.5 | 0.00 |
| Gastroesophageal reflux disease | 11.3 | 12.0 | -0.02 | 11.8 | 11.9 | 0.00 | 14.8 | 15.0 | -0.01 | 15.4 | 14.7 | 0.02 | 14.9 | 18.0 | -0.08 | 18.0 | 17.1 | 0.02 |
| Gastrointestinal hemorrhage | 1.5 | 2.2 | -0.05 | 2.4 | 1.8 | 0.04 | 2.5 | 4.5 | -0.11 | 4.4 | 3.1 | 0.07 | 1.8 | 3.3 | -0.09 | 2.9 | 2.6 | 0.02 |
| Human immunodeficiency virus infection | 0.2 | 0.3 | -0.03 | 0.3 | 0.3 | 0.01 | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | -0.01 | 0.2 | 0.2 | 0.01 | 0.3 | 0.2 | 0.01 |
| Hyperlipidemia | 75.3 | 73.6 | 0.04 | 73.0 | 73.8 | -0.02 | 76.8 | 73.4 | 0.08 | 73.8 | 73.9 | 0.00 | 81.3 | 82.9 | -0.04 | 81.9 | 82.3 | -0.01 |
| Hypertensive disorder | 72.8 | 71.6 | 0.03 | 70.1 | 71.3 | -0.03 | 82.8 | 82.4 | 0.01 | 81.2 | 81.1 | 0.00 | 78.5 | 84.4 | -0.15 | 82.1 | 82.7 | -0.02 |
| Lesion of liver | 0.6 | 1.9 | -0.12 | 1.5 | 1.5 | -0.01 | 0.9 | 1.9 | -0.08 | 1.8 | 1.9 | 0.00 | 0.8 | 2.1 | -0.10 | 1.5 | 1.8 | -0.02 |
| Obesity | 22.5 | 20.4 | 0.05 | 20.1 | 20.4 | -0.01 | 17.4 | 12.4 | 0.14 | 13.6 | 13.1 | 0.02 | 28.2 | 18.8 | 0.22 | 20.1 | 20.3 | -0.01 |
| Osteoarthritis | 16.8 | 18.4 | -0.04 | 18.6 | 18.2 | 0.01 | 30.3 | 32.1 | -0.04 | 31.6 | 30.0 | 0.03 | 21.1 | 27.6 | -0.15 | 26.5 | 25.6 | 0.02 |
| Pneumonia | 1.9 | 3.1 | -0.08 | 2.8 | 2.7 | 0.01 | 3.3 | 9.9 | -0.27 | 5.6 | 5.4 | 0.01 | 2.3 | 6.5 | -0.20 | 4.4 | 4.3 | 0.00 |
| Psoriasis | 1.4 | 1.5 | 0.00 | 1.4 | 1.5 | -0.01 | 1.8 | 1.6 | 0.01 | 2.0 | 1.9 | 0.01 | 1.5 | 1.4 | 0.00 | 1.5 | 1.5 | 0.00 |
| Renal impairment | 3.6 | 11.5 | -0.30 | 9.4 | 9.4 | 0.00 | 10.7 | 33.2 | -0.57 | 24.8 | 21.1 | 0.09 | 8.7 | 31.0 | -0.58 | 25.7 | 22.7 | 0.07 |
| Rheumatoid arthritis | 1.0 | 1.3 | -0.03 | 1.8 | 1.3 | 0.04 | 1.6 | 2.3 | -0.05 | 1.9 | 1.9 | 0.00 | 1.3 | 2.0 | -0.05 | 2.2 | 1.8 | 0.02 |
| Schizophrenia | 0.1 | 0.1 | -0.02 | 0.1 | 0.1 | -0.03 | 0.1 | 0.2 | -0.03 | 0.1 | 0.2 | -0.02 | 0.3 | 0.4 | -0.02 | 0.3 | 0.4 | -0.03 |
| Ulcerative colitis | 0.3 | 0.5 | -0.03 | 0.5 | 0.5 | 0.00 | 0.5 | 0.6 | -0.02 | 0.3 | 0.6 | -0.04 | 0.3 | 0.3 | 0.00 | 0.5 | 0.3 | 0.03 |
| Urinary tract infectious disease | 6.8 | 9.6 | -0.10 | 9.3 | 9.1 | 0.00 | 8.6 | 16.4 | -0.24 | 13.3 | 12.0 | 0.04 | 8.5 | 16.7 | -0.25 | 14.7 | 13.4 | 0.04 |
| Viral hepatitis C | 0.3 | 0.7 | -0.06 | 0.7 | 0.7 | 0.01 | 0.3 | 0.5 | -0.04 | 0.3 | 0.4 | -0.03 | 0.6 | 0.8 | -0.03 | 0.6 | 0.7 | -0.01 |
| Visual system disorder | 28.0 | 33.3 | -0.12 | 33.9 | 32.9 | 0.02 | 55.5 | 57.8 | -0.05 | 57.9 | 56.5 | 0.03 | 36.8 | 50.4 | -0.28 | 49.8 | 48.0 | 0.03 |
| Medical history: Cardiovascular disease |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atrial fibrillation | 1.9 | 3.1 | -0.08 | 3.5 | 2.8 | 0.04 | 9.3 | 18.0 | -0.25 | 15.4 | 12.5 | 0.08 | 3.5 | 10.6 | -0.28 | 8.6 | 7.7 | 0.03 |
| Cerebrovascular disease | 1.6 | 2.9 | -0.09 | 2.8 | 2.6 | 0.01 | 4.8 | 10.4 | -0.21 | 7.7 | 6.6 | 0.04 | 2.6 | 7.9 | -0.24 | 5.7 | 5.9 | -0.01 |
| Coronary arteriosclerosis | 8.1 | 11.2 | -0.10 | 10.9 | 10.6 | 0.01 | 25.2 | 35.8 | -0.23 | 31.9 | 29.6 | 0.05 | 11.8 | 24.3 | -0.33 | 21.6 | 20.1 | 0.03 |
| Heart disease | 17.5 | 24.0 | -0.16 | 23.5 | 22.6 | 0.02 | 42.6 | 59.4 | -0.34 | 54.2 | 50.9 | 0.06 | 23.5 | 43.9 | -0.44 | 40.1 | 37.7 | 0.05 |
| Heart failure | 1.9 | 5.1 | -0.17 | 3.8 | 4.0 | -0.01 | 6.8 | 19.3 | -0.38 | 13.8 | 11.3 | 0.08 | 3.9 | 13.7 | -0.35 | 10.4 | 9.2 | 0.04 |
| Ischemic heart disease | 4.0 | 6.5 | -0.12 | 6.0 | 6.0 | 0.00 | 10.2 | 18.1 | -0.23 | 14.3 | 13.2 | 0.03 | 6.2 | 14.3 | -0.27 | 12.2 | 11.3 | 0.03 |
| Peripheral vascular disease | 8.7 | 13.4 | -0.15 | 12.9 | 12.4 | 0.01 | 24.5 | 39.1 | -0.32 | 34.0 | 31.6 | 0.05 | 14.1 | 29.9 | -0.39 | 27.0 | 25.3 | 0.04 |
| Pulmonary embolism | 0.4 | 0.7 | -0.05 | 0.7 | 0.6 | 0.01 | 0.7 | 1.9 | -0.11 | 1.4 | 1.2 | 0.02 | 0.5 | 1.2 | -0.08 | 1.1 | 1.0 | 0.01 |
| Venous thrombosis | 1.3 | 2.6 | -0.09 | 2.2 | 2.3 | -0.01 | 2.6 | 6.2 | -0.18 | 4.1 | 3.6 | 0.03 | 1.7 | 4.1 | -0.14 | 2.9 | 3.0 | 0.00 |
| Medical history: Neoplasms |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hematologic neoplasm | 0.7 | 1.6 | -0.08 | 1.5 | 1.4 | 0.00 | 1.3 | 3.1 | -0.12 | 1.8 | 2.2 | -0.03 | 0.8 | 2.4 | -0.12 | 1.8 | 1.8 | 0.00 |
| Malignant lymphoma | 0.3 | 0.6 | -0.04 | 0.6 | 0.5 | 0.00 | 0.6 | 1.5 | -0.09 | 0.8 | 1.0 | -0.02 | 0.4 | 1.1 | -0.08 | 0.8 | 0.9 | -0.01 |
| Malignant neoplasm of anorectum | 0.1 | 0.1 | -0.01 | 0.3 | 0.1 | 0.04 | 0.2 | 0.4 | -0.03 | 0.4 | 0.4 | 0.01 | 0.2 | 0.4 | -0.05 | 0.3 | 0.3 | 0.00 |
| Malignant neoplastic disease | 5.3 | 8.7 | -0.13 | 8.3 | 8.1 | 0.01 | 15.7 | 22.8 | -0.18 | 20.2 | 19.5 | 0.02 | 7.1 | 14.6 | -0.24 | 13.1 | 12.5 | 0.02 |
| Malignant tumor of breast | 1.1 | 1.6 | -0.04 | 1.7 | 1.5 | 0.02 | 2.3 | 3.1 | -0.05 | 3.4 | 3.0 | 0.02 | 1.3 | 2.3 | -0.08 | 2.3 | 2.1 | 0.01 |
| Malignant tumor of colon | 0.3 | 0.6 | -0.05 | 0.7 | 0.5 | 0.03 | 0.7 | 1.4 | -0.07 | 1.5 | 1.0 | 0.04 | 0.4 | 1.0 | -0.08 | 0.8 | 0.9 | -0.01 |
| Malignant tumor of lung | 0.1 | 0.5 | -0.07 | 0.4 | 0.3 | 0.01 | 0.4 | 1.2 | -0.08 | 1.0 | 0.9 | 0.00 | 0.2 | 0.8 | -0.09 | 0.5 | 0.6 | -0.01 |
| Malignant tumor of urinary bladder | 0.1 | 0.4 | -0.05 | 0.2 | 0.3 | -0.04 | 0.9 | 1.6 | -0.06 | 1.7 | 1.3 | 0.03 | 0.2 | 0.8 | -0.09 | 0.6 | 0.7 | 0.00 |
| Primary malignant neoplasm of prostate | 0.5 | 0.7 | -0.03 | 0.7 | 0.7 | -0.01 | 3.1 | 3.6 | -0.03 | 2.9 | 3.1 | -0.01 | 0.8 | 1.7 | -0.08 | 1.5 | 1.2 | 0.02 |
| Medication use |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Agents acting on the renin-angiotensin system | 71.8 | 67.5 | 0.09 | 66.5 | 67.9 | -0.03 | 79.1 | 73.0 | 0.14 | 75.1 | 75.1 | 0.00 | 71.7 | 73.0 | -0.03 | 72.6 | 73.0 | -0.01 |
| Antibacterials for systemic use | 57.9 | 58.3 | -0.01 | 57.9 | 57.7 | 0.00 | 61.0 | 62.5 | -0.03 | 62.7 | 60.2 | 0.05 | 55.6 | 58.6 | -0.06 | 58.4 | 56.8 | 0.03 |
| Antidepressants | 26.1 | 22.9 | 0.07 | 21.6 | 22.9 | -0.03 | 26.0 | 24.7 | 0.03 | 25.4 | 23.9 | 0.04 | 25.5 | 24.6 | 0.02 | 25.3 | 24.5 | 0.02 |
| Antiepileptics | 14.3 | 15.3 | -0.03 | 14.6 | 14.9 | -0.01 | 17.2 | 18.4 | -0.03 | 18.1 | 17.2 | 0.02 | 16.4 | 19.3 | -0.08 | 18.4 | 18.7 | -0.01 |
| Antiinflammatory and antirheumatic products | 31.2 | 29.5 | 0.04 | 29.9 | 29.7 | 0.01 | 28.0 | 21.7 | 0.15 | 23.4 | 23.3 | 0.00 | 28.7 | 24.7 | 0.09 | 26.3 | 25.9 | 0.01 |
| Antineoplastic agents | 1.9 | 3.3 | -0.09 | 3.0 | 3.0 | 0.00 | 3.6 | 5.1 | -0.07 | 3.8 | 4.6 | -0.04 | 2.2 | 3.9 | -0.10 | 4.0 | 3.5 | 0.03 |
| Antipsoriatics | 0.6 | 1.0 | -0.05 | 0.7 | 0.6 | 0.01 | 0.7 | 1.9 | -0.10 | 1.0 | 1.2 | -0.02 | 0.4 | 1.5 | -0.11 | 0.7 | 0.9 | -0.03 |
| Antithrombotic agents | 9.4 | 14.0 | -0.14 | 13.8 | 12.8 | 0.03 | 22.8 | 32.4 | -0.22 | 29.0 | 26.6 | 0.05 | 10.9 | 22.7 | -0.32 | 19.4 | 18.6 | 0.02 |
| Beta-blocking agents | 25.2 | 30.7 | -0.12 | 30.1 | 29.4 | 0.01 | 47.1 | 58.6 | -0.23 | 54.3 | 53.0 | 0.03 | 28.6 | 44.2 | -0.33 | 41.2 | 39.7 | 0.03 |
| Calcium channel blockers | 20.4 | 22.9 | -0.06 | 22.3 | 22.0 | 0.01 | 32.5 | 38.8 | -0.13 | 34.9 | 35.2 | -0.01 | 21.7 | 34.3 | -0.28 | 31.0 | 30.8 | 0.00 |
| Diuretics | 37.4 | 36.5 | 0.02 | 35.4 | 35.4 | 0.00 | 48.5 | 54.8 | -0.13 | 51.4 | 51.0 | 0.01 | 37.5 | 45.8 | -0.17 | 42.9 | 42.4 | 0.01 |
| Drugs for acid-related disorders | 24.6 | 26.8 | -0.05 | 26.4 | 26.0 | 0.01 | 32.5 | 37.6 | -0.11 | 35.1 | 33.9 | 0.02 | 23.7 | 32.5 | -0.20 | 31.8 | 30.3 | 0.03 |
| Drugs for obstructive airway diseases | 26.4 | 27.6 | -0.03 | 27.4 | 27.4 | 0.00 | 29.1 | 32.2 | -0.07 | 30.6 | 30.6 | 0.00 | 25.1 | 26.8 | -0.04 | 26.4 | 26.1 | 0.01 |
| Immunosuppressants | 2.3 | 4.1 | -0.11 | 3.4 | 3.5 | 0.00 | 3.2 | 4.4 | -0.06 | 3.8 | 3.9 | -0.01 | 2.2 | 3.7 | -0.09 | 3.3 | 3.3 | 0.00 |
| Lipid-modifying agents | 70.5 | 68.8 | 0.04 | 68.5 | 68.8 | -0.01 | 82.7 | 79.9 | 0.07 | 79.7 | 80.5 | -0.02 | 72.4 | 75.0 | -0.06 | 75.1 | 74.2 | 0.02 |
| Opioids | 21.0 | 23.7 | -0.06 | 22.8 | 22.7 | 0.00 | 23.5 | 25.2 | -0.04 | 23.7 | 23.1 | 0.02 | 18.9 | 23.4 | -0.11 | 23.5 | 22.1 | 0.03 |
| Psycholeptics | 22.3 | 24.2 | -0.05 | 24.2 | 23.6 | 0.01 | 24.8 | 26.8 | -0.05 | 26.6 | 25.2 | 0.03 | 19.9 | 24.3 | -0.11 | 24.3 | 22.8 | 0.03 |
| Psychostimulants, agents used for ADHD, and nootropics | 3.2 | 2.8 | 0.02 | 2.3 | 2.8 | -0.03 | 1.6 | 1.1 | 0.04 | 1.4 | 1.2 | 0.01 | 2.5 | 1.1 | 0.11 | 1.3 | 1.2 | 0.01 |

AHA, antihyperglycemic agent; PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; Std d, standard deviation; ADHD, attention deficit hyperactivity disorder.

†Excluding metformin.

**Supplemental Figure 1. Risk of AP for canagliflozin and comparator AHAs using different time-at-risk for analyses.†**

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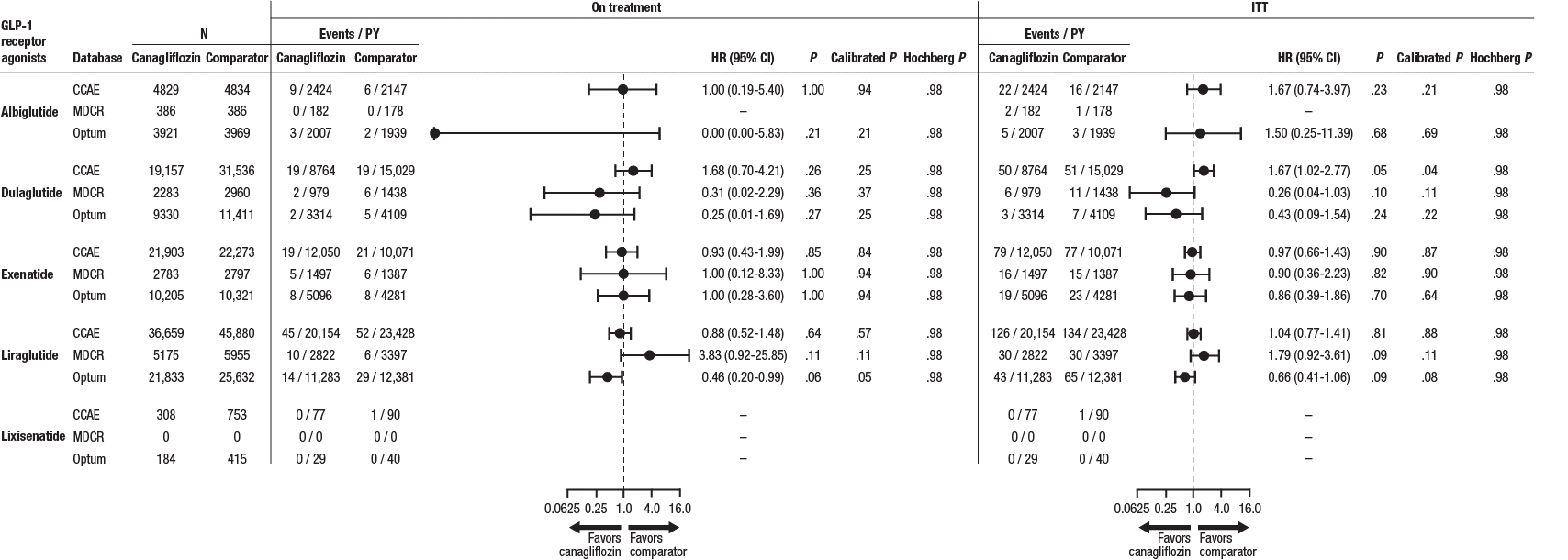
AP, acute pancreatitis; AHA, antihyperglycemic agent; PS, propensity score;CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database; GLP-1, glucagon-like peptide-1; DPP-4, dipeptidyl peptidase-4; TZD, thiazolidinedione.

†Time-at-risk in the on-treatment approach was calculated with 0, 30, and 60-day biological windows added to the last index drug exposure.

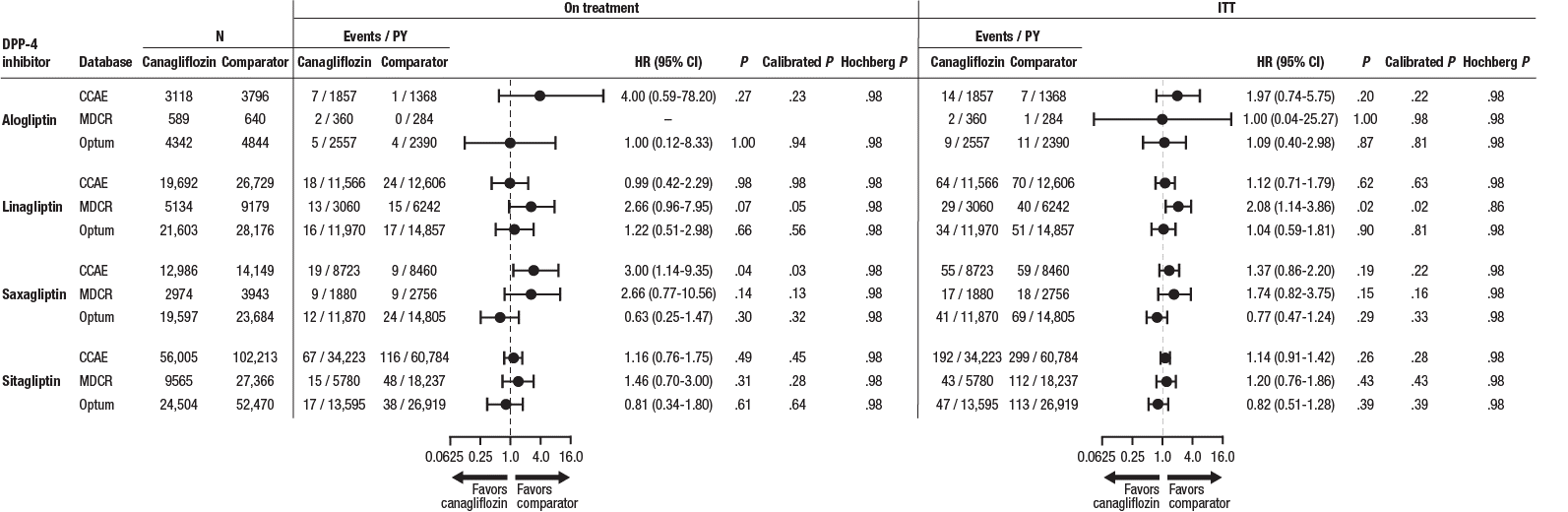
‡Excluding metformin.

**Supplemental Figure 2. Risk of AP for canagliflozin and individual comparator agents: (A) GLP-1 receptor agonists, (B) DPP-4 inhibitors, (C) sulfonylureas, (D) TZD, (E) other AHAs, and (F) SGLT2 inhibitors.**

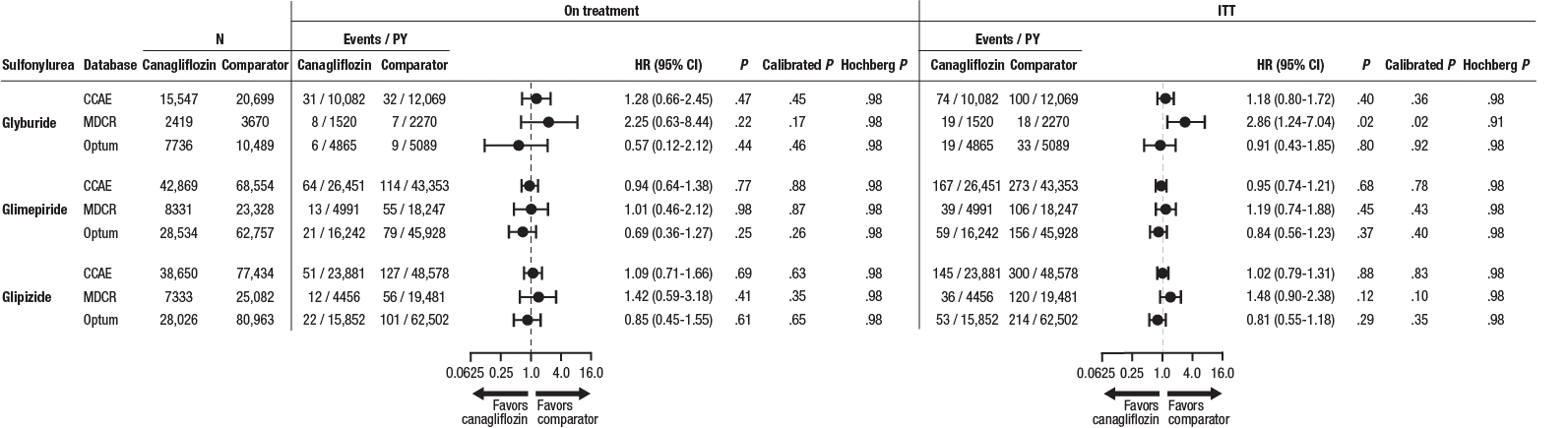
**A**

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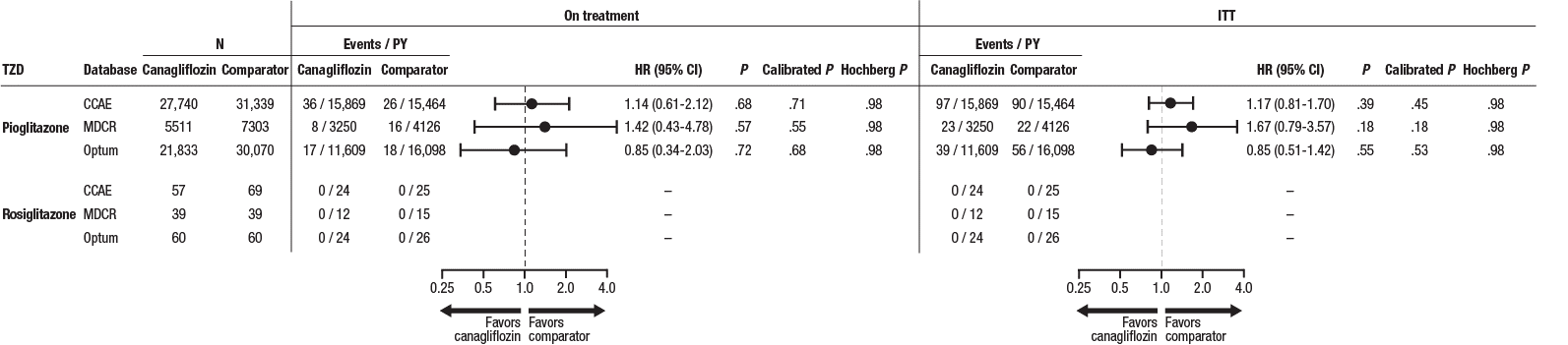
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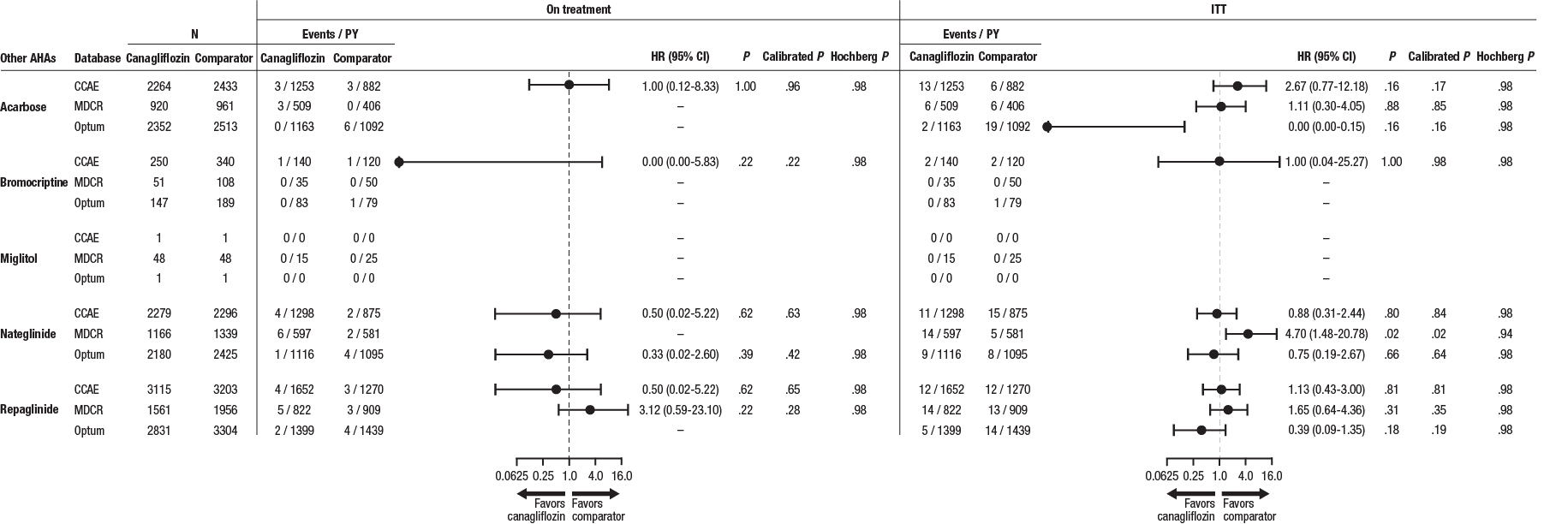
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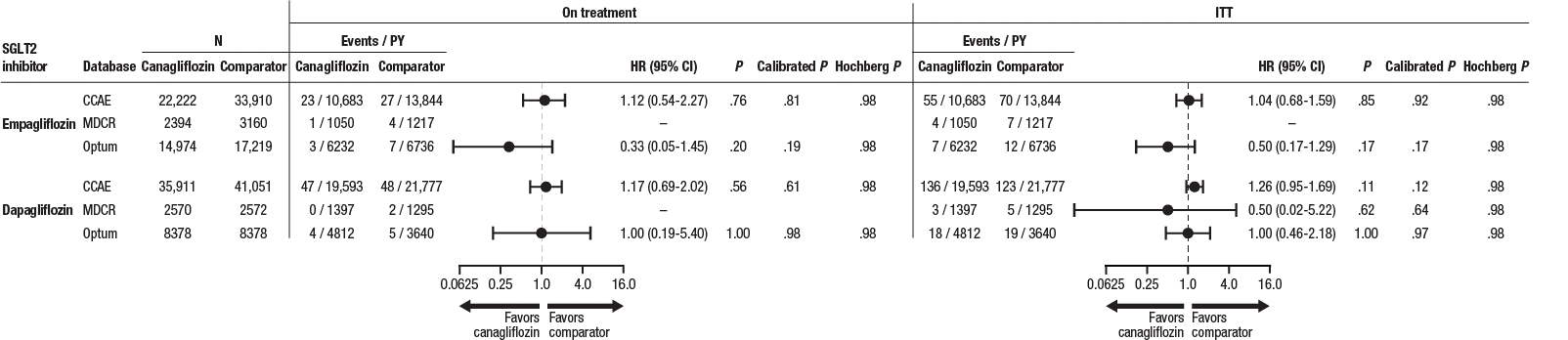
**D**

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**E**

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**F**

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AP, acute pancreatitis; GLP-1, glucagon-like peptide-1; DPP-4, dipeptidyl peptidase-4; TZD, thiazolidinedione; AHA, antihyperglycemic agent; SGLT2, sodium glucose co-transporter 2; ITT, intent-to-treat; PY, patient-year; HR, hazard ratio; CI, confidence interval; CCAE, IBM® MarketScan® Commercial Database; MDCR, IBM® MarketScan® Medicare Supplemental Database; Optum, Optum© De-identified Clinformatics® Data Mart Database.