**Supplemental Table 2. Patient characteristics of A1C ≥8% subgroup, separating out patients with and without a recorded A1C during 2017** (value recorded between 1/1/2015 and 12/31/2106, closest to 2016)

|  | Recorded A1C ≥8% as of 2017/12/31 | No A1c in 2017 | P-value |
| --- | --- | --- | --- |
| Number of patients | 3480 | 1840 |  |
| Age, median (IQR) | 57.7 [50.0, 66.1] | 56.0 [47.8, 65.0] | <0.001 |
| Gender, n (%) |  |  | 0.397 |
| Female | 1659 (47.7) | 854 (46.4) |  |
| Male | 1821 (52.3) | 986 (53.6) |  |
| Race, n (%) |  |  | 0.287 |
| White | 2307 (66.3) | 1183 (64.3) |  |
| Black | 887 (25.5) | 505 (27.4) |  |
| Other | 286 (8.2) | 152 (8.3) |  |
| Ethnicity, n (%) |  |  | <0.001 |
| Hispanic Americans | 229 (6.6) | 148 (8.0) |  |
| Not Hispanic or Latino | 3163 (90.9) | 1616 (87.8) |  |
| Unknown | 88 (2.5) | 76 (4.1) |  |
| Median Income, median (IQR) | 49,057  [37,848, 63,145] | 48,428  [37,821, 61,278] | 0.027 |
| Insurance type, n (%) |  |  | <0.001 |
| Medicare | 1113 (32.0) | 479 (26.0) |  |
| Medicaid | 527 (15.1) | 280 (15.2) |  |
| Private  | 1493 (42.9) | 797 (43.3) |  |
| Other | 347 (10.0) | 284 (15.4) |  |
| Current Smoker, n (%)  | 591 (17.0) | 365 (19.9) | 0.009 |
| Years in T2D Database, median (IQR) | 2.9 [2.6, 5.1] | 2.9 [0.9, 3.3] | <0.001 |
| Years in T2D Database, mean (SD) | 4.12 (3.33) | 3.17 (3.02) | <0.001 |
| A1C, median (IQR) | 10.3 [9.6, 11.4] | 10.4 [9.7, 11.6] | 0.003 |
| Number of A1C measurements during 2015-2016, median (IQR) | 3.0 [2.0, 5.0] | 2.0 [1.0, 3.0] | <0.001 |
| Number of A1C measurements during 2015-2016 |  |  | <0.001 |
| 1 | 580 (16.7) | 752 (40.9) |  |
| 2 | 740 (21.3) | 493 (26.8) |  |
| ≥3 | 2160 (62.1) | 595 (32.3) |  |
|  |  |  |  |
| Endocrinology encounters, median (IQR) | 0.0 [0.0, 2.0] | 0.0 [0.0, 1.0] | <0.001 |
| Number of endocrinology encounters, n (%) |  |  | <0.001 |
|  0 | 2186 (62.8) | 1228 (66.7) |  |
|  1-2 | 598 (17.2) | 367 (19.9) |  |
|  >=3 | 696 (20.0) | 245 (13.3) |  |
| Primary care encounters, median (IQR) | 5.0 [2.0, 8.0] | 2.0 [1.0, 5.0] | <0.001 |
| Number of primary care encounters, n (%) |  |  | <0.001 |
|  0 | 365 (10.5) | 350 (19.0) |  |
|  1-2 | 578 (16.6) | 594 (32.3) |  |
|  >=3 | 2537 (72.9) | 896 (48.7) |  |
| Primary care encounters, median (IQR) | 5.0 [2.0, 8.0] | 2.0 [1.0, 5.0] | <0.001 |
| Other encounters, median (IQR) | 20.0 [10.0, 33.0] | 10.0 [4.0, 20.0] | <0.001 |
| Number of other encounters, n (%) |  |  | <0.001 |
|  0 | 23 (0.7) | 60 (3.3) |  |
|  1-5 | 380 (10.9) | 514 (27.9) |  |
|  6-10 | 468 (13.4) | 376 (20.4) |  |
|  11-15 | 475 (13.6) | 265 (14.4) |  |
|  16 - 20 | 478 (13.7) | 181 (9.8) |  |
|  > 20 | 1656 (47.6) | 444 (24.1) |  |
| Endo+Primary encounters, median (IQR) | 6.0 [3.0, 9.0] | 3.0 [2.0, 6.0] | <0.001 |
| Number of Endo+Primary encounters, n (%) |  |  | <0.001 |
|  0 | 37 (1.1) | 55 (3.0) |  |
|  1-5 | 1613 (46.4) | 1301 (70.7) |  |
|  6-10 | 1137 (32.7) | 359 (19.5) |  |
|  11-15 | 436 (12.5) | 94 (5.1) |  |
|  16 - 20 | 170 (4.9) | 20 (1.1) |  |
|  > 20 | 87 (2.5) | 11 (0.6) |  |
|  |  |  |  |
| Anti-diabetes medications, n (%) |  |  |  |
| Metformin | 2416 (69.4) | 884 (48.0) | <0.001 |
| SU | 1584 (45.5) | 493 (26.8) | <0.001 |
| Insulin |  |  | <0.001 |
|  Basal | 828 (23.8) | 309 (16.8) |  |
|  Bolus | 142 (4.1) | 85 (4.6) |  |
|  Basal+Bolus | 955 (27.4) | 311 (16.9) |  |
|  Mixed  | 26 (0.7) | 10 (0.5) |  |
| DPP-4 | 783 (22.5) | 219 (11.9) | <0.001 |
| GLP-1RA | 403 (11.6) | 97 (5.3) | <0.001 |
| SGLT-2i | 264 (7.6) | 60 (3.3) | <0.001 |
| TZD | 155 (4.5) | 35 (1.9) | <0.001 |
| AGI | 5 (0.1) | 3 (0.2) | 1.0 |
| Number of different classes of anti-diabetes medications used, n (%) |  |  |  |
|  0 | 165 (4.7) | 472 (25.7) | <0.001 |
|  1 | 792 (22.8) | 570 (31.0) |  |
|  2 | 1204 (34.6) | 516 (28.0) |  |
|  ≥ 3 | 1319 (37.9) | 282 (15.3) |  |
|  |  |  |  |
| Comorbidities, n (%) |  |  |  |
| Obesity | 1778 (51.1) | 961 (52.2) | 0.447 |
| Cardiovascular Disease | 1654 (47.5) | 809 (44.0) | 0.014 |
| Congestive Heart Failure | 400 (11.5) | 257 (14.0) | 0.010 |
| Hypoglycemia | 214 (6.1) | 85 (4.6) | 0.025 |
| Depression | 1113 (32.0) | 457 (24.8) | <0.001 |
| Psychiatric Disease | 2226 (64.0) | 997 (54.2) | <0.001 |
| Cognitive Impairment  | 337 (9.7) | 180 (9.8) | 0.947 |
| Chronic Kidney Disease | 492 (14.1) | 251 (13.6) | 0.649 |
| Alcohol or Substance Abuse | 942 (27.1) | 496 (27.0) | 0.956 |
|  |  |  |  |
| CCI score, median (IQR) | 3.0 [2.0, 4.0] | 2.0 [1.0, 4.0] | <0.001 |
| CCI by category, n (%) |  |  | <0.001 |
| 0 | 10 (0.3) | 9 (0.5) |  |
| 1 | 777 (22.3) | 543 (29.5) |  |
| 2 | 948 (27.2) | 506 (27.5) |  |
| ≥3 | 1745 (50.1) | 782 (42.5) |  |

AGI, alpha-glucosidase inhibitor; CCI, Charlson Comorbidity Index; DPP-4, dipeptidyl peptidase-4 inhibitor; IQR, interquartile range; GLP-1RA, glucagon-like peptide-1 receptor agonist; SGLT-2i, sodium glucose co-transporter-2 inhibitor; SD, standard deviation; SU, sulfonylurea; TZD, thiazolidinedione