Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.
### eTable 1. Outcome definitions

| Outcome                        | Setting                                                                 | ICD-9 Codes | ICD-10 Codes |
|--------------------------------|------------------------------------------------------------------------|-------------|--------------|
| Severe hypoglycemia            | Medicare or VA emergency department, observation stay or inpatient hospitalization claim with a primary discharge diagnosis code of: | 251.0, 251.1, 251.2, 251.8, without concurrent 259.8, 272.7, 681.XX, 682.XX, 686.9X, 707.1-707.9, 709.3, 730.0-730.2, or 731.8 codes | E08.641, E08.649, E09.641, E09.649, E10.641, E10.649, E11.641, E11.649, E13.641, E13.649, E15, E16.0, E16.1, E16.2, T38.3X1A, T38.3X1D, T38.3X2A, T38.3X2D, T38.3X2S, T38.3X3A, T38.3X3D, T38.3X3S, T38.3X4A, T38.3X4D, T38.3X4S, T38.3X5A, T38.3X5D, T38.3X5S |
| Severe hyperglycemia           | Medicare or VA emergency department, observation stay or inpatient hospitalization claim with a primary discharge diagnosis code of: | 250.02, 250.03, 250.1X, 250.2X, 250.3X | E0800, E0801, E0802, E0804, E0810, E0811, E0865, E0900, E0901, E0910, E0911, E0965, E1000, E1001, E1010, E1011, E1065, E1100, E1101, E1110, E1111, E1165, E1300, E1301, E1310, E1311, E1365 |

**Sources:**
Ginde AA, Blanc PG, Lieberman RM, Camargo CA Jr. Validation of ICD-9-CM coding algorithm for improved identification of hypoglycemia visits. *BMC Endocr Disord.* 2008;8:4.

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Karter AJ, Warton EM, Moffet HH, Ralston JD, Huang ES, Miller DR, Lipska KJ. Revalidation of the Hypoglycemia Risk Stratification Tool Using ICD-10 Codes. *Diabetes Care.* 2019 Apr;42(4):e58-e59.
**eTable 2.** Diabetes medication intensifications at hospital discharge

| Intensification type, No. (%) | Overall (N=28,198) | Preadmission HbA$_1c$ ≤ 7.5% (N=20,267) | Preadmission HbA$_1c$ > 7.5% (N=7,061) |
|-----------------------------|--------------------|------------------------------------------|--------------------------------------|
| Any intensification         | 2768 (9.8)         | 1341 (6.6)                               | 1350 (19.1)                          |
| **New medication starts a** |                    |                                          |                                      |
| New insulin                 | 1423 (5.1)         | 542 (2.7)                                | 838 (11.9)                           |
| New long-acting insulin     | 1213 (4.3)         | 413 (2.0)                                | 761 (10.8)                           |
| New short-acting insulin    | 593 (2.1)          | 238 (1.2)                                | 340 (4.8)                            |
| New sulfonylurea            | 630 (2.2)          | 365 (1.8)                                | 249 (3.5)                            |
| New biguanide               | 522 (1.9)          | 278 (1.4)                                | 243 (3.3)                            |
| New DPP4 inhibitor          | 45 (0.2)           | 17 (0.1)                                 | 28 (0.4)                             |
| New alpha-glucosidase inhibitor | 15 (0.1)       | 8 (<0.1)                                 | 5 (0.7)                              |
| New meglitinide             | 9 (<0.1)           | 4 (<0.1)                                 | 4 (0.1)                              |
| New thiazolidinedione       | 8 (<0.1)           | 4 (<0.1)                                 | 4 (0.1)                              |
| New GLP1 receptor agonists  | 1 (<0.1)           | 1 (<0.1)                                 | 0 (0.0)                              |
| New SGLT2 inhibitor         | 0 (0.0)            | 0 (0.0)                                  | 0 (0.0)                              |
| **Dose increases b**        |                    |                                          |                                      |
| Increased sulfonylurea      | 210 (0.7)          | 114 (0.6)                                | 88 (1.3)                             |
| Increased biguanide         | 151 (0.5)          | 94 (0.5)                                 | 51 (0.7)                             |
| Increased DPP4 inhibitor    | 0 (0.0)            | 0 (0.0)                                  | 0 (0.0)                              |
| Increased alpha-glucosidase inhibitor | 3 (<0.1)     | 1 (<0.1)                                 | 2 (<0.1)                             |
| Increased meglitinide       | 0 (0.0)            | 0 (0.0)                                  | 0 (0.0)                              |
| Increased thiazolidinedione | 0 (0.0)            | 0 (0.0)                                  | 0 (0.0)                              |
| Increased GLP1 receptor agonist | 0 (0.0)       | 0 (0.0)                                  | 0 (0.0)                              |
| Increased SGLT2 inhibitor   | 0 (0.0)            | 0 (0.0)                                  | 0 (0.0)                              |

**Abbreviations:** HbA$_1c$, hemoglobin A1c; GLP-1, glucagon-like peptide-1; DPP4, dipeptidyl peptidase 4; SGLT2, sodium glucose co-transporter 2 inhibitor

*a* Medication start defined as discharge prescription for medication class not used on admission.

*b* Dose increases defined as >20% increase in total daily dose of home medication class being used prior to hospitalization.
**eTable 3. Complete Cohort Characteristics Before and After Propensity Score Matching**

| Characteristic                  | Before Propensity Score Matching | After Propensity Score Matching |
|---------------------------------|-----------------------------------|----------------------------------|
|                                 | Intensified (N= 2,768)           | Not Intensified (N= 25,430)     | SMD | Intensified (N= 2,648) | Not Intensified (N= 2,648) | SMD |
| Age, mean (SD), y               | 72.6 (7.3)                       | 73.8 (7.7)                      | 0.16 | 72.7 (7.3)             | 72.8 (7.3)                   | 0.01 |
| Male sex, No. (%)               | 2721 (98.3)                      | 24989 (98.3)                    | 0.00 | 2603 (98.3)            | 2609 (98.5)                  | 0.02 |
| Race/ethnicity, No. (%)         | 223 (0.8)                        | 366 (1.4)                      | 0.09 | 262 (0.9)              | 212 (0.8)                    | 0.02 |
| White                           | 2155 (77.9)                      | 20445 (80.4)                   |      | 2074 (78.3)            | 2064 (77.9)                  |      |
| Black                           | 456 (16.5)                       | 3704 (14.6)                    |      | 426 (16.1)             | 441 (16.7)                   |      |
| Hispanic                        | 28 (1.0)                         | 366 (1.4)                      |      | 26 (1.0)               | 21 (0.8)                     |      |
| Other                           | 129 (4.7)                        | 915 (3.6)                      |      | 122 (4.6)              | 122 (4.6)                    |      |
| Median zip code household income, mean (SD), $ | 26571.5 (44152.3) | 27167.2 (45854.5) | 0.01 | 26645.3 (44848.4) | 27717.4 (49144.8) | 0.02 |
| VISN, No. (%)                   |                                   |                                 | 0.18 |                                 | 0.07 |
| New England Health Care System  | 102 (3.7)                        | 1215 (4.8)                     |      | 100 (3.8)              | 106 (4.0)                    |      |
| Healthcare New York/New Jersey  | 158 (5.7)                        | 1283 (5.0)                     |      | 152 (5.7)              | 150 (5.7)                    |      |
| VISN4 Network                   | 125 (4.5)                        | 1141 (4.5)                     |      | 119 (4.5)              | 113 (4.3)                    |      |
| Capitol Healthcare Network      | 84 (3.0)                         | 659 (2.6)                      |      | 79 (3.0)               | 95 (3.6)                     |      |
| Mid-Atlantic Health Care Network| 156 (5.6)                        | 1555 (6.1)                     |      | 151 (5.7)              | 152 (5.7)                    |      |
| Southeast Network               | 179 (6.5)                        | 1171 (4.6)                     |      | 166 (6.3)              | 174 (6.6)                    |      |
| Sunshine Healthcare Network     | 212 (7.7)                        | 2488 (9.8)                     |      | 206 (7.8)              | 192 (7.3)                    |      |
| MidSouth Healthcare Network     | 156 (5.6)                        | 1856 (7.3)                     |      | 152 (5.7)              | 157 (5.9)                    |      |
| VISN 10 Healthcare System       | 104 (3.8)                        | 858 (3.4)                      |      | 100 (3.8)              | 102 (3.9)                    |      |
| Great Lakes Healthcare System   | 278 (10.0)                       | 2329 (9.2)                     |      | 256 (9.7)              | 260 (9.8)                    |      |
| Heartland Network               | 129 (4.7)                        | 1275 (5.0)                     |      | 127 (4.8)              | 128 (4.8)                    |      |
| South Central VA Healthcare Network | 342 (12.4)                  | 2551 (10.0)                    |      | 330 (12.5)             | 336 (12.7)                   |      |
| Heart of Texas Healthcare System| 104 (3.8)                        | 1313 (5.2)                     |      | 100 (3.8)              | 87 (3.3)                     |      |
| Southwest Healthcare Network    | 95 (3.4)                         | 956 (3.8)                      |      | 88 (3.3)               | 73 (2.8)                     |      |
| Rocky Mountain Network          | 72 (2.6)                         | 608 (2.4)                      |      | 69 (2.6)               | 67 (2.5)                     |      |
| Northwest Health Network        | 89 (3.2)                         | 889 (3.5)                      |      | 86 (3.2)               | 99 (3.7)                     |      |
| Sierra Pacific Network          | 103 (3.7)                        | 1020 (4.0)                     |      | 99 (3.7)               | 107 (4.0)                    |      |
| Desert Pacific Healthcare Network | 164 (5.9)                     | 1338 (5.3)                     |      | 153 (5.8)              | 138 (5.2)                    |      |
| Midwest Healthcare Network      | 116 (4.2)                        | 925 (3.6)                      |      | 115 (4.3)              | 112 (4.2)                    |      |
| Pre-admission clinical characteristics, mean (SD) | | |
| Body mass index, kg/m²            | 31.2 (6.6)                      | 30.8 (6.5)                     | 0.06 | 31.2 (6.5)             | 31.0 (6.7)                   | 0.03 |
| Systolic BP, mmHg                | 134.8 (17.9)                     | 133.0 (17.5)                   | 0.10 | 134.7 (17.9)            | 134.7 (17.9)                 | 0.00 |
| Diastolic BP, mmHg               | 73.5 (10.4)                      | 72.4 (10.2)                    | 0.10 | 73.4 (10.4)            | 73.3 (10.5)                  | 0.01 |

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| Frailty score | 0.2 (0.1) | 0.2 (0.1) | 0.02 | 0.2 (0.1) | 0.2 (0.1) | 0.01 |
| Pre-admission diabetes management | 8.0 (1.7) | 7.1 (1.1) | 0.68 | 7.9 (1.5) | 7.9 (1.7) | 0.02 |
| Hemoglobin A1c, mean (SD), d | 65.5 (23.8) | 67 (24.3) | 0.06 | 65.5 (23.7) | 65.5 (24.0) | 0.00 |
| Estimated glomerular filtration rate, mean (SD), mL/min per 1.73 m2 | 38 (1.4) | 211 (0.8) | 0.05 | 36 (1.4) | 53 (2.0) | 0.05 |
| Any hypoglycemia hospitalizations in prior year, No. (%) | 4.0 (0.1) | 6.5 (2.6) | 0.31 | 4 (0.2) | 2 (0.1) | 0.02 |
| Number of admission diabetes medications, No. (%) | 1062 (38.4) | 6311 (24.8) | 974 (36.8) | 988 (37.3) | 0.02 |
| 0 | 1073 (38.8) | 13113 (51.6) | 1046 (39.5) | 1003 (37.9) | 0.05 |
| 1 | 547 (19.8) | 5349 (21.0) | 542 (20.5) | 559 (21.1) | 0.03 |
| >3 | 86 (3.2) | 657 (2.6) | 86 (3.3) | 98 (3.7) | 0.03 |
| Diabetes medication classes used in prior year, No. (%) | 1448 (52.3) | 13724 (54.0) | 1383 (52.2) | 1370 (51.9) | 0.01 |
| Metformin | 1482 (53.5) | 12759 (50.2) | 1427 (53.9) | 1458 (55.1) | 0.02 |
| Sulfonylureas | 140 (5.1) | 863 (3.4) | 137 (5.2) | 143 (5.4) | 0.01 |
| Thiazolidinediones | 66 (2.4) | 373 (1.5) | 66 (2.5) | 71 (2.7) | 0.01 |
| α-glucosidase inhibitors | 45 (1.6) | 357 (1.4) | 44 (1.7) | 53 (2.0) | 0.03 |
| Dipeptidyl peptidase-4 inhibitors | 4 (0.1) | 50 (0.2) | 4 (0.2) | 2 (0.1) | 0.02 |
| Other classes | 1448 (52.3) | 13724 (54.0) | 1383 (52.2) | 1370 (51.9) | 0.01 |
| Preadmission diabetes medication adherence | 616 (22.3) | 5805 (22.8) | 604 (22.8) | 613 (23.1) | 0.02 |
| No medications | 1090 (39.4) | 13314 (52.4) | 1070 (40.4) | 1047 (39.5) | 0.02 |
| PDC < 80% | 1448 (52.3) | 13724 (54.0) | 1383 (52.2) | 1370 (51.9) | 0.01 |
| PDC > 80% | 616 (22.3) | 5805 (22.8) | 604 (22.8) | 613 (23.1) | 0.02 |
| Any Medicare utilization in prior year, No. (%) | 35 (1.3) | 246 (1.0) | 32 (1.2) | 46 (1.7) | 0.04 |
| No. ED visits in the year preceding index hospitalization | 645 (23.3) | 1370 (5.4) | 552 (20.8) | 570 (21.5) | 0.02 |
| Other classes | 9 (0.3) | 79 (0.3) | 9 (0.3) | 6 (0.2) | 0.02 |

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| No. hospitalizations in the year preceding index hospitalization | 0.02 | 0.01 |
|---------------------------------------------------------------|------|------|
| 0                                                             | 1957 (70.7) | 18077 (71.1) | 1885 (71.2) | 1887 (71.3) |
| 1                                                             | 480 (17.3) | 4488 (17.6) | 450 (17.0) | 457 (17.3) |
| 2                                                             | 186 (6.7) | 1648 (6.5) | 175 (6.6) | 169 (6.4) |
| ≥3                                                            | 145 (5.2) | 1217 (4.8) | 138 (5.2) | 135 (5.1) |
| Admission medication count, mean (SD)                         | 7.9 (4.7) | 8.9 (4.9) | 8 (4.7) | 8 (5.0) |
| Polypharmacy (>8 medications), No. (%)                         | 1434 (51.8) | 15608 (61.4) | 1402 (52.9) | 1410 (53.2) |

**Index hospitalization characteristics**

| Length of stay, mean (SD), d | 6.6 (8.0) | 5.2 (5.8) | 6.5 (8.1) | 6.4 (8.7) |
| Year of hospitalization, No. (%) | 0.06 | 0.04 |
| 2011                           | 646 (23.3) | 5714 (22.5) | 619 (23.4) | 624 (23.6) |
| 2012                           | 496 (17.9) | 4551 (17.9) | 477 (18.0) | 481 (18.2) |
| 2013                           | 460 (16.6) | 4237 (16.7) | 443 (16.7) | 422 (15.9) |
| 2014                           | 447 (16.1) | 4058 (16.0) | 423 (16.0) | 411 (15.5) |
| 2015                           | 380 (13.7) | 3953 (15.5) | 363 (13.7) | 392 (14.8) |
| 2016                           | 339 (12.2) | 3217 (11.5) | 323 (12.2) | 318 (12.0) |
| Training hospital, No. (%)    | 2451 (88.5) | 22790 (89.6) | 2352 (88.8) | 2381 (89.9) |

**Discharge diagnoses, No. (%)**

| Arrhythmia                    | 18 (0.7) | 370 (1.5) | 18 (0.7) | 17 (0.6) |
| Asthma                        | 22 (0.8) | 124 (0.5) | 21 (0.8) | 19 (0.7) |
| Chronic obstructive pulmonary disease | 267 (9.6) | 2156 (8.5) | 255 (9.6) | 264 (10.0) |
| Chest pain                    | 82 (3.0) | 940 (3.7) | 80 (3.0) | 72 (2.7) |
| Conduction disorders          | 212 (7.7) | 2737 (10.8) | 206 (7.8) | 178 (6.7) |
| Coronary artery disease       | 356 (12.9) | 2794 (11) | 341 (12.9) | 356 (13.4) |
| Acute coronary syndrome       | 172 (6.2) | 1520 (6.0) | 162 (6.1) | 175 (6.6) |
| Heart failure                 | 484 (17.5) | 3854 (15.2) | 464 (17.5) | 482 (18.2) |
| Heart valve disorders         | 65 (2.3) | 588 (2.3) | 65 (2.5) | 62 (2.3) |
| Pneumonia                     | 275 (9.9) | 2830 (11.1) | 268 (10.1) | 255 (9.6) |
| Sepsis                        | 77 (2.8) | 797 (3.1) | 68 (2.6) | 59 (2.2) |
| Skin infection                | 246 (8.9) | 2261 (8.9) | 231 (8.7) | 223 (8.4) |
| Stroke                        | 175 (6.3) | 1320 (5.2) | 164 (6.2) | 197 (7.4) |
| Transient ischemic attack     | 37 (1.3) | 415 (1.6) | 35 (1.3) | 33 (1.2) |
| Urinary tract infection       | 212 (7.7) | 2139 (8.4) | 205 (7.7) | 199 (7.5) |
| Venous thromboembolism        | 68 (2.5) | 585 (2.3) | 65 (2.5) | 57 (2.2) |

**Hospital blood glucose values, mean (SD)**

| Highest glucose | 310.6 (110.6) | 235.7 (85.3) | 304 (105.5) | 306.4 (109.4) |
| Lowest glucose  | 107.7 (45.2) | 102.4 (32.3) | 108 (44.2) | 107.7 (43.4) |

**Standard deviation of hospital glucose recordings**

| 57.4 (29.5) | 39.6 (22.8) | 55.8 (28.3) | 56.4 (30.0) |

**Laboratory values at discharge, mean (SD)**

| Glucose, mg/dL | 181.8 (71.4) | 156.5 (57.7) | 180.7 (70.3) | 181.0 (68.9) |
| Hemoglobin, g/dL | 12.0 (2.0) | 12.1 (2.0) | 12.0 (2.0) | 12.0 (2.0) |
| Platelets, k/mm³ | 223.2 (86.4) | 212.3 (82.5) | 222.2 (85.8) | 223.9 (94.3) |
| Drug Class                          | No. (%)          | Median (IQR)  |
|------------------------------------|------------------|---------------|
| Sodium, mEq/L                      | 137.6 (3.2)      | 138.0 (3.2)   |
| Potassium, mEq/L                   | 4.1 (0.4)        | 4.1 (0.4)     |
| Blood urea nitrogen, mg/dL         | 25.1 (14.4)      | 23.0 (13.1)   |
| Carbon dioxide, mEq/L              | 27.2 (3.9)       | 27.0 (3.9)    |
| Estimated glomerular filtration rate, mL/min per 1.73 m² | 66.9 (26.3) | 69.6 (26.9) |
| Received inpatient steroids, No. (%) | 509 (18.4) | 3459 (13.6) |
| Other medication classes used at hospital admission, No. (%) |              |               |
| Antiasthma/brochodilators medications |                  |               |
| Muscleoskeletal medications        | 124 (4.5)        | 1272 (5.0)    |
| Antidepressants                    | 676 (24.4)       | 6839 (26.9)   |
| Antidiuretics                      | 546 (19.7)       | 5472 (21.5)   |
| Antipsychotics                     | 102 (3.7)        | 1185 (4.7)    |
| Digitalis glycosides               | 114 (4.1)        | 1242 (4.9)    |
| Antihistamines                     | 351 (12.7)       | 3869 (15.2)   |
| Antimicrobials                     | 92 (3.3)         | 970 (3.8)     |
| Antineoplastics                    | 53 (1.9)         | 583 (2.3)     |
| Autonomic medications              | 48 (1.7)         | 503 (2.0)     |
| Anticoagulants                     | 313 (11.3)       | 3957 (15.6)   |
| Other central nervous system medications | 192 (6.9) | 2080 (8.2) |
| Non-opioid analgesics              | 781 (28.2)       | 7711 (30.3)   |
| Opioid analgesics                  | 512 (18.5)       | 5455 (21.5)   |
| Sedative/hypnotics                 | 261 (9.4)        | 2905 (11.4)   |
| Anticonvulsants                    | 507 (18.3)       | 4960 (19.5)   |
| Antidepressants                    | 676 (24.4)       | 6839 (26.9)   |
| Antipsychotics                     | 102 (3.7)        | 1185 (4.7)    |
| Digitalis glycosides               | 114 (4.1)        | 1242 (4.9)    |
| Beta blockers                      | 1379 (49.8)      | 13729 (54)    |
| Alpha blockers                     | 736 (26.6)       | 7969 (31.3)   |
| Calcium channel blockers           | 836 (30.2)       | 7908 (31.1)   |
| Antianginals                       | 448 (16.2)       | 4215 (16.6)   |
| Antiarrhythmics                    | 51 (1.8)         | 577 (2.3)     |
| Antihypertensives                  | 283 (10.2)       | 2561 (10.1)   |
| Loop diuretics                     | 734 (26.5)       | 6779 (26.7)   |
| Angiotension converting enzyme inhibitors | 1199 (43.3) | 11465 (45.1) |
| Angiotensin II receptor blockers   | 354 (12.8)       | 3550 (14.0)   |
| Gastrointestinal medications       | 1247 (45.1)      | 13048 (51.3)  |
| Genitourinary medications          | 291 (10.5)       | 3148 (12.4)   |
| Hormones                           | 629 (22.7)       | 6913 (27.2)   |
| Musculoskeletal medications        | 595 (21.5)       | 6059 (23.8)   |
| Antiasthma/brochodilators          | 47 (1.7)         | 517 (2.0)     |
| Systemic decongestants and antitussives | 124 (4.5) | 1272 (5.0) |
| Comorbidities, No. (%)             |                |               |
| Heart failure                      | 1059 (38.3)      | 9263 (36.4)   |
| Acute myocardial infarction        | 273 (9.9)        | 2387 (9.4)    |

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| Diagnosis                                                                 | Count   | Percent | p-Value | Count   | Percent | p-Value | Count   | Percent | p-Value |
|---------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Unstable angina and other acute ischemic heart disease                    | 174 (6.3) | 1738 (7.0) | 0.03 | 164 (6.2) | 163 (6.2) | 0.00 |
| Chronic angina and coronary artery disease                                | 1457 (52.6) | 13202 (51.9) | 0.01 | 1393 (52.6) | 1434 (54.2) | 0.03 |
| Valvular/rheumatic heart disease                                          | 381 (13.8) | 4257 (16.7) | 0.08 | 373 (14.1) | 383 (14.5) | 0.01 |
| Other cardiac disease including congenital heart and hypertensive disease | 1693 (61.2) | 15627 (61.5) | 0.01 | 1620 (61.2) | 1640 (61.9) | 0.02 |
| Arrhythmias and conduction disorders                                      | 1272 (46.0) | 12821 (50.4) | 0.09 | 1221 (46.1) | 1230 (46.5) | 0.01 |
| Pleural effusion/pneumothorax                                              | 210 (7.6) | 2067 (8.1) | 0.02 | 199 (7.5) | 194 (7.3) | 0.01 |
| Chest pain                                                                | 684 (24.7) | 6736 (26.5) | 0.04 | 662 (25.0) | 650 (24.5) | 0.02 |
| Syncope                                                                   | 161 (5.8) | 1777 (7.0) | 0.05 | 157 (5.9) | 161 (6.1) | 0.01 |
| Acute stroke/transient ischemic attack                                     | 483 (17.4) | 4173 (16.4) | 0.03 | 454 (17.1) | 494 (18.7) | 0.04 |
| Pulmonary embolism/deep venous thrombosis                                 | 166 (6.0) | 1567 (6.2) | 0.01 | 157 (5.9) | 146 (5.5) | 0.02 |
| Other peripheral vascular disease                                          | 610 (22.0) | 5222 (20.5) | 0.04 | 571 (21.6) | 586 (22.1) | 0.01 |
| Cardio-respiratory failure                                                | 66 (2.4) | 591 (2.3) | 0.00 | 64 (2.4) | 69 (2.6) | 0.01 |
| Chronic obstructive pulmonary disease/asthma                              | 1165 (42.1) | 10892 (42.8) | 0.02 | 1117 (42.2) | 1108 (41.8) | 0.01 |
| Pneumonia including aspiration pneumonitis                                | 638 (23.0) | 5547 (21.8) | 0.03 | 612 (23.1) | 592 (22.4) | 0.02 |
| Septicemia/shock                                                          | 200 (7.2) | 1902 (7.5) | 0.01 | 192 (7.3) | 181 (6.8) | 0.02 |
| Urinary tract infection and urinary system complaints                      | 529 (19.1) | 5065 (19.9) | 0.02 | 502 (19.0) | 475 (17.9) | 0.03 |
| Cellulitis                                                                | 540 (19.5) | 4833 (19.0) | 0.01 | 506 (19.1) | 504 (19.0) | 0.00 |
| Clostridium difficile-associated infection                                 | 27 (1.0) | 240 (0.9) | 0.00 | 25 (0.9) | 27 (1.0) | 0.01 |
| Renal disorders including renal failure and fluid, electrolyte, and acid-base abnormalities | 1457 (52.6) | 12681 (49.9) | 0.06 | 1376 (52.0) | 1344 (50.8) | 0.02 |
| Anemia                                                                    | 882 (31.9) | 8352 (32.8) | 0.02 | 846 (31.9) | 839 (31.7) | 0.01 |
| Gastrointestinal hemorrhage                                               | 199 (7.2) | 1986 (7.8) | 0.02 | 193 (7.3) | 189 (7.1) | 0.01 |
| Fibrosis of lung and other chronic lung disorders                          | 87 (3.1) | 818 (3.2) | 0.00 | 81 (3.1) | 88 (3.3) | 0.02 |
| Hip fracture                                                              | 22 (0.8) | 201 (0.8) | 0.00 | 22 (0.8) | 19 (0.7) | 0.01 |
| Complications of care                                                     | 374 (13.5) | 3703 (14.6) | 0.03 | 360 (13.6) | 353 (13.3) | 0.01 |
| Other lung disorders including acute, congenital, and unspecified lung abnormalities | 1108 (40.0) | 10796 (42.5) | 0.05 | 1065 (40.2) | 1068 (40.3) | 0.00 |
| Primary cancer of the trachea, bronchus, lung, and pleura                 | 72 (2.6) | 757 (3.0) | 0.02 | 69 (2.6) | 67 (2.5) | 0.00 |
| Other infections                                                          | 1414 (51.1) | 13427 (52.8) | 0.03 | 1349 (50.9) | 1337 (50.5) | 0.01 |
| Cancer                                                                    | 544 (19.7) | 5972 (23.5) | 0.09 | 528 (19.9) | 505 (19.1) | 0.02 |
| Endocrine/metabolic                                                       | 2603 (94.0) | 24006 (94.4) | 0.02 | 2495 (94.2) | 2483 (93.8) | 0.02 |
| Liver disease                                                             | 230 (8.3) | 2217 (8.7) | 0.01 | 218 (8.2) | 226 (8.5) | 0.01 |
| Digestive (Gastrointestinal)                                              | 1547 (55.9) | 15465 (60.8) | 0.10 | 1484 (56.0) | 1504 (56.8) | 0.02 |

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| Condition                              | Value1 (Mean) | Value2 (Mean) | p-Value | Value3 (Mean) | Value4 (Mean) | p-Value |
|---------------------------------------|---------------|---------------|---------|---------------|---------------|---------|
| Musculoskeletal                       | 2115 (76.4)   | 20332 (80.0)  | 0.09    | 2016 (76.1)   | 2045 (77.2)   | 0.03    |
| Other hematologic                     | 411 (14.8)    | 3783 (14.9)   | 0.00    | 391 (14.8)    | 401 (15.1)    | 0.01    |
| Cognitive                              | 299 (10.8)    | 2901 (11.4)   | 0.02    | 282 (10.6)    | 311 (11.7)    | 0.03    |
| Substance abuse                        | 301 (10.9)    | 2526 (9.9)    | 0.03    | 280 (10.6)    | 281 (10.6)    | 0.00    |
| Psychiatric                            | 1214 (43.9)   | 11270 (44.3)  | 0.01    | 1153 (43.5)   | 1166 (44)     | 0.01    |
| Development disorders                  | 31 (1.1)      | 256 (1.0)     | 0.01    | 29 (1.1)      | 31 (1.2)      | 0.01    |
| Spinal cord                            | 81 (2.9)      | 757 (3.0)     | 0.00    | 78 (2.9)      | 87 (3.3)      | 0.02    |
| Neuromuscular                          | 1377 (49.7)   | 12834 (50.5)  | 0.01    | 1311 (49.5)   | 1328 (50.2)   | 0.01    |
| Non-acute cerebrovascular disease      | 410 (14.8)    | 3842 (15.1)   | 0.01    | 393 (14.8)    | 411 (15.5)    | 0.02    |
| Other pulmonary                        | 61 (2.2)      | 639 (2.5)     | 0.02    | 59 (2.2)      | 53 (2.0)      | 0.02    |
| Ophthalmologic                        | 2107 (76.1)   | 20232 (79.6)  | 0.08    | 2016 (76.1)   | 2048 (77.3)   | 0.03    |
| Ear, nose, and throat                  | 1187 (42.9)   | 12909 (50.8)  | 0.16    | 1157 (43.7)   | 1152 (43.5)   | 0.00    |
| Other renal                            | 502 (18.1)    | 4553 (17.9)   | 0.01    | 476 (18.0)    | 481 (18.2)    | 0.00    |
| Genitourinary                          | 1418 (51.2)   | 13677 (53.8)  | 0.05    | 1356 (51.2)   | 1353 (51.1)   | 0.00    |
| Other dermatologic                     | 1296 (46.8)   | 12558 (49.4)  | 0.05    | 1237 (46.7)   | 1245 (47.0)   | 0.01    |
| Injury excluding hip fracture          | 608 (22.0)    | 6070 (23.9)   | 0.05    | 579 (21.9)    | 577 (21.8)    | 0.00    |
| Symptoms (major and minor) excluding respiratory | 1031 (37.2) | 10272 (40.4)  | 0.06    | 989 (37.3)    | 962 (36.3)    | 0.02    |
| Miscellaneous surgical and non-surgical procedures | 2720 (98.3) | 25035 (98.4)  | 0.01    | 2601 (98.2)   | 2597 (98.1)   | 0.01    |
| Durable medical equipment              | 779 (28.1)    | 7569 (29.8)   | 0.04    | 747 (28.2)    | 754 (28.5)    | 0.01    |
| Other                                  | 2209 (79.8)   | 20643 (81.2)  | 0.03    | 2112 (79.8)   | 2121 (80.1)   | 0.01    |
| Skin ulcer including decubitus ulcer   | 346 (12.5)    | 2582 (10.2)   | 0.07    | 321 (12.1)    | 322 (12.2)    | 0.00    |

Abbreviations: SD, standard deviation; BP, blood pressure; ED, emergency department

a Fewer than 8% of any covariate was missing. Missing data were imputed using the fully conditional specification method and 20 imputation sets. Missing data included: BMI (n= 2,282), outpatient blood pressure (n= 1,594), pre-admission estimated glomerular filtration rate (n=1,560), inpatient glucose (n=2,012), discharge hemoglobin (n=1,705), discharge potassium (n=961), discharge sodium (n=883), discharge blood urea nitrogen (n=1,337), discharge carbon dioxide (n=1,201), discharge platelets (n=1,235), discharge estimated glomerular filtration rate (n=1,476).

b All medications classified using VA drug class coding. Combination medications were split into component parts. Topical, inhaled, otic, and optic medications were excluded.

c Laboratory data collected from day of index hospitalization discharge or during index hospitalization up to 2 days prior to day of discharge

d Comorbidities include both secondary discharge diagnoses from index hospitalization and preadmission diagnoses from the year preceding index hospitalization.
### eTable 4. Difference in Differences Analysis of Hemoglobin A$_{1c}$ Values One Year Following Discharged With or Without Diabetes Medication Intensifications

| HbA$_{1c}$, Mean (95% CI), % $^a$ | Received Discharge Intensifications (N=2,157) | No Discharge Intensifications (N=2,057) |
|----------------------------------|-----------------------------------------------|----------------------------------------|
| Baseline                         | 7.91 (7.84 to 7.98)                          | 7.91 (7.84 to 7.97)                    |
| Post-baseline $^b$                | 7.72 (7.65 to 7.79)                          | 7.70 (7.68 to 7.77)                    |
| Pre-post change                   | -0.19 (-0.29 to -0.10)                       | -0.21 (-0.31 to -0.11)                 |
| Difference-in-differences estimate $^c$ | 0.02 (-0.12 to 0.16)                       |                                         |

Abbreviations: SD, standard deviation, HbA$_{1c}$, hemoglobin A1c

$a$ The results are from the 4,215 patients in the propensity-matched cohort who met the inclusion criteria for the HbA$_{1c}$ analysis (outpatient HbA$_{1c}$ measured between 6 months and 18 months following index hospitalization discharge). Mean (SD) number of days between baseline and postbaseline measure 278 (80) days for intensified group and 282 (82) days for not intensified group.

$b$ The post-discharge HbA$_{1c}$ was assessed prior to censoring as the HbA$_{1c}$ recorded at the closest date to 1 year following index hospitalization discharge, within the range for 6 to 18 months following discharge.

$c$ Calculated as the pre-post change in HbA$_{1c}$ for the intensified regimen group minus the pre-post change in HbA$_{1c}$ for the not intensified group.
## eTable 5. Baseline Characteristics Before and After Propensity Score Matching, Controlled Baseline HbA1c Subgroup

| Characteristic                      | Before Propensity Score Matching | After Propensity Score Matching |
|-------------------------------------|-----------------------------------|---------------------------------|
|                                     | Intensified (N=1,341)             | Not Intensified (N=18,926)      |                                         |
|                                     | SMD                               | SMD                             |                                         |
| Age, mean (SD), y                   | 73.4 (7.5)                        | 74.0 (7.7)                      | 0.07                                     |
| Male sex, No. (%)                   | 1322 (98.6)                       | 18576 (98.2)                    | 0.03                                     |
| Race/ethnicity, No. (%)             | 0.05                              | 0.03                            |                                         |
| White                               | 1062 (79.2)                       | 15251 (80.6)                    |                                         |
| Black                               | 207 (15.4)                        | 2760 (14.6)                     |                                         |
| Hispanic                            | 15 (1.1)                          | 260 (1.4)                       |                                         |
| Other                               | 57 (4.3)                          | 655 (3.5)                       |                                         |
| Median zip code household income, mean (SD), $ | 27063.5 (45097.4) | 26950.7 (43942.2) | 0.00                                     |
| VISN, No. (%)                       | 0.23                              | 0.23                            | 0.00                                     |
| New England Health Care System      | 49 (3.7)                          | 881 (4.7)                       | 49 (3.7)                                 |
| Healthcare New York/New Jersey      | 82 (6.1)                          | 964 (5.1)                       | 81 (6.1)                                 |
| VISN4 Network                       | 57 (4.3)                          | 830 (4.4)                       | 57 (4.3)                                 |
| Capitol Healthcare Network         | 49 (3.7)                          | 485 (2.6)                       | 49 (3.7)                                 |
| Mid-Atlantic Health Care Network    | 78 (5.8)                          | 1187 (6.3)                      | 78 (5.8)                                 |
| Sunshine Healthcare Network         | 84 (6.3)                          | 868 (4.6)                       | 84 (6.3)                                 |
| VISM 10 Healthcare System           | 108 (8.1)                         | 1887 (10)                       | 108 (8.1)                                 |
| MidSouth Healthcare Network         | 80 (6)                            | 1356 (7.2)                      | 80 (6)                                   |
| VISM 10 Healthcare System           | 54 (4)                            | 618 (3.3)                       | 54 (4)                                   |
| Great Lakes Healthcare System       | 143 (10.7)                        | 1765 (9.3)                      | 140 (10.5)                               |
| Heartland Network                   | 59 (4.4)                          | 971 (5.1)                       | 59 (4.4)                                 |
| South Central VA Healthcare Network | 160 (11.9)                        | 1904 (10.1)                     | 160 (12)                                 |
| Heart of Texas Healthcare System    | 35 (2.6)                          | 972 (5.1)                       | 35 (2.6)                                 |
| Southwest Healthcare Network        | 41 (3.1)                          | 739 (3.9)                       | 41 (3.1)                                 |
| Rocky Mountain Network              | 36 (2.7)                          | 445 (2.4)                       | 36 (2.7)                                 |
| Northwest Health Network            | 42 (3.1)                          | 653 (3.5)                       | 42 (3.1)                                 |
| Sierra Pacific Network              | 42 (3.1)                          | 724 (3.8)                       | 42 (3.1)                                 |
| Desert Pacific Healthcare Network   | 86 (6.4)                          | 995 (5.3)                       | 86 (6.4)                                 |
| Midwest Healthcare Network          | 56 (4.2)                          | 682 (3.6)                       | 55 (4.1)                                 |
| Pre-admission clinical characteristics, mean (SD) |                                         |                                |                                         |
| Body mass index, kg/m$^2$           | 31.0 (6.7)                        | 30.8 (6.5)                      | 0.03                                     |
| Systolic BP, mmHg                   | 133.8 (17.9)                      | 132.6 (17.4)                    | 0.07                                     |

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|                                | Pre-admission diabetes management | Pre-admission healthcare use, No. (%) |
|--------------------------------|----------------------------------|--------------------------------------|
| **Diastolic BP, mmHg**         | 72.3 (10.4) 72.1 (10.2) 0.02     | 419 (31.2) 5741 (30.3) 0.02          |
| Frailty score                  | 0.2 (0.1) 0.2 (0.1) 0.04          | 674 (50.3) 9421 (49.8) 0.10          |
| **Hemoglobin A1c, mean (SD), d**| 6.8 (0.5) 6.6 (0.5) 0.45         | 418 (31.3) 671 (50.2) 680 (50.9)     |
| **Estimated glomerular filtration rate, mean (SD), mL/min per 1.73 m2** | 64.9 (23.9) 67 (24.4) 0.09 | 429 (32.1) 671 (50.2) 680 (50.9)     |
| Any hypoglycemia hospitalizations in prior year, No. (%) | 21 (1.6) 142 (0.8) 0.08 | 1.00 |
| Number of admission diabetes medications, No. (%) | 495 (36.9) 4593 (24.3) 0.05 | 2.00 |
| 0 medications                 | 495 (36.9) 4593 (24.3) 0.05      | 2.00 |
| 1                               | 573 (42.7) 10502 (55.5) 0.07     | 2.00 |
| 2                               | 241 (18) 3483 (18.4) 0.03        | 2.00 |
| >3                             | 32 (2.4) 348 (1.8) 0.03          | 2.00 |
| Metformin                       | 511 (38.1) 9321 (49.2) 0.23      | 2.00 |
| Sulfonylureas                   | 538 (40.1) 8229 (43.5) 0.07      | 2.00 |
| Thiazolidinediones              | 58 (4.3) 463 (2.4) 0.10         | 2.00 |
| α-glucosidase inhibitors       | 21 (1.6) 233 (1.2) 0.03          | 2.00 |
| Dipeptidyl peptidase-4 inhibitors | 17 (1.3) 185 (1) 0.03    | 2.00 |
| Other classes                   | 2 (0.1) 28 (0.1) 0.00           | 2.00 |
| Preadmission diabetes medication adherence | 0.28 | 2.00 |
| 0 medications                  | 495 (36.9) 4593 (24.3) 0.05      | 2.00 |
| PDC < 80%                       | 265 (19.8) 3998 (21.1) 0.12      | 2.00 |
| PDC > 80%                       | 581 (43.3) 10335 (54.6) 0.03     | 2.00 |
| Diabetes medication classes used in prior year, No. (%) | 681 (50.8) 10186 (53.8) 0.06 | 2.00 |
| Metformin                       | 681 (50.8) 10186 (53.8) 0.06     | 2.00 |
| Sulfonylureas                   | 711 (53) 8888 (47) 0.12         | 2.00 |
| Thiazolidinediones              | 75 (5.6) 564 (3) 0.13           | 2.00 |
| α-glucosidase inhibitors       | 30 (2.2) 284 (1.5) 0.05          | 2.00 |
| Dipeptidyl peptidase-4 inhibitors | 15 (1.1) 133 (0.7) 0.04    | 2.00 |
| Insulins                        | 217 (16.2) 716 (3.8) 0.42       | 2.00 |
| Other classes                   | 4 (0.3) 44 (0.2) 0.01           | 2.00 |
| Pre-admission diabetes medication adherence | 0.28 | 2.00 |
| Any Medicare utilization in prior year, No. (%) | 674 (50.3) 9421 (49.8) 0.10 | 2.00 |
| No. ED visits in the year preceding index hospitalization | 175 (13) 2346 (12.4) 0.10 | 2.00 |
No. hospitalizations in the year preceding index hospitalization | 146 (10.9) | 2632 (13.9) | 145 (10.9) | 148 (11.1)
|----------------|----------------|----------------|----------------|----------------|
| 0              | 941 (70.2)     | 13362 (70.6)   | 937 (70.1)     | 938 (70.2)     |
| 1              | 229 (17.1)     | 3392 (17.9)    | 229 (17.1)     | 239 (17.9)     |
| 2              | 90 (6.7)       | 1252 (6.6)     | 90 (6.7)       | 73 (5.5)       |
| ≥3             | 81 (6)         | 920 (4.9)      | 80 (6)         | 86 (6.4)       |

Admission medication count, mean (SD) | 8.6 (4.7) | 9.3 (4.8) | 8.6 (4.7) | 8.3 (4.9)
| Polypharmacy (>8 medications), No. (%) | 765 (57) | 12156 (64.2) | 765 (57.3) | 746 (55.8)

Index hospitalization characteristics

| Length of stay, mean (SD), d | 6.6 (6.4) | 5.2 (5.5) | 6.6 (6.4) | 6.8 (8.2) |
| Year of hospitalization, No. (%) | 360 (26.8) | 4365 (23.1) | 358 (26.8) | 381 (28.5) |
| Training hospital, No. (%) | 1184 (88.3) | 16926 (89.4) | 1181 (88.4) | 1201 (89.9) |

Discharge diagnoses, No. (%)

| Arrhythmia | 6 (0.4) | 279 (1.5) | 6 (0.4) | 8 (0.6) |
| Asthma     | 12 (0.9) | 100 (0.5) | 12 (0.9) | 10 (0.7) |
| Chronic obstructive pulmonary disease | 163 (12.2) | 1693 (8.9) | 163 (12.2) | 168 (12.6) |
| Chest pain | 40 (3) | 722 (3.8) | 40 (3) | 33 (2.5) |
| Conduction disorders | 108 (8.1) | 2091 (11) | 108 (8.1) | 103 (7.7) |
| Coronary artery disease | 173 (12.9) | 2064 (10.9) | 172 (12.9) | 172 (12.9) |
| Acute coronary syndrome | 71 (5.3) | 1044 (5.5) | 70 (5.2) | 74 (5.5) |
| Heart failure | 236 (17.6) | 2882 (15.2) | 234 (17.5) | 236 (17.7) |
| Heart valve disorders | 41 (3.1) | 470 (2.5) | 41 (3.1) | 52 (3.9) |
| Pneumonia | 144 (10.7) | 2148 (11.3) | 144 (10.8) | 140 (10.5) |
| Sepsis      | 32 (2.4) | 591 (3.1) | 32 (2.4) | 40 (3) |
| Skin infection | 102 (7.6) | 1643 (8.7) | 102 (7.6) | 106 (7.9) |
| Stroke      | 65 (4.8) | 883 (4.7) | 65 (4.9) | 61 (4.6) |
| Transient ischemic attack | 18 (1.3) | 312 (1.6) | 18 (1.3) | 19 (1.4) |
| Urinary tract infection | 101 (7.5) | 1580 (8.3) | 100 (7.5) | 88 (6.6) |
| Venous thromboembolism | 29 (2.2) | 424 (2.2) | 29 (2.2) | 26 (1.9) |

Hospital blood glucose values, mean (SD)

| Highest glucose | 284.5 (104.5) | 222.1 (79) | 283.5 (103.3) | 281 (102.9) |
| Lowest glucose  | 102.7 (39.1) | 99.6 (28.5) | 102.8 (39.1) | 99.8 (34.6) |

Laboratory values at discharge, mean (SD)

| Glucose, mg/dL | 170.1 (66.3) | 148.2 (52) | 169.7 (65.5) | 166.2 (63.5) |
| Hemoglobin, g/dL | 11.9 (2) | 12.1 (2) | 11.9 (2) | 11.9 (1.9) |
|                               | Mean (SD)  | Mean (SD)  | p-value  | Mean (SD)  | Mean (SD)  | p-value  |
|--------------------------------|------------|------------|----------|------------|------------|----------|
| Sodium, mEq/L                  | 137.7 (3.3)| 138.1 (3.2)| 0.12     | 137.7 (3.3)| 137.6 (3.4)| 0.04     |
| Potassium, mEq/L               | 4.1 (0.4)  | 4.1 (0.4)  | 0.04     | 4.1 (0.4)  | 4.2 (0.4)  | 0.04     |
| Blood urea nitrogen, mg/dL      | 26.1 (14.2)| 23 (12.9)  | 0.22     | 26 (14.1)  | 26.5 (16.2)| 0.03     |
| Carbon dioxide, mEq/L          | 27.4 (3.9) | 27 (3.9)   | 0.09     | 27.4 (3.9)| 27.3 (4.1)| 0.03     |
| Estimated glomerular filtration rate, mL/min per 1.73 m² | 66.2 (26.1) | 69.7 (26.6) | 0.13 | 66.3 (26.1) | 66.2 (26.5) | 0.00 |
| **Other medication classes used at hospital admission, No. (%)** |          |            |          |            |            |          |
| Antiarrhythmics                | 198 (14.8) | 3064 (16.2)| 0.04     | 198 (14.8)| 187 (14)  | 0.02     |
| Anticoagulants                 | 44 (3.3)   | 771 (4.1)  | 0.04     | 44 (3.3)  | 44 (3.3)  | 0.00     |
| Other central nervous system medications | 93 (6.9)   | 1604 (8.5) | 0.06     | 93 (7)    | 99 (7.4)  | 0.02     |
| Opioid analgesics              | 276 (19.9) | 4299 (22.7)| 0.07     | 276 (20)  | 26 (18.4) | 0.04     |
| Calcium channel blockers       | 149 (11.1) | 2292 (12.1)| 0.03     | 149 (11.2)| 131 (9.8) | 0.04     |
| Anticoagulants                 | 249 (18.6) | 3908 (20.6)| 0.05     | 249 (18.6)| 228 (17.1)| 0.04     |
| Antihistamines                 | 349 (26)   | 5362 (28.3)| 0.05     | 348 (26)  | 331 (24.8)| 0.03     |
| Beta blockers                  | 712 (53.1) | 10576 (55.9)| 0.06    | 710 (53.1)| 710 (53.1)| 0.00     |
| Antidiuretics                  | 396 (29.5) | 6264 (33.1)| 0.08     | 396 (29.6)| 360 (26.9)| 0.06     |
| Angiotensin II receptor blockers| 44 (3.3)   | 771 (4.1)  | 0.04     | 44 (3.3)  | 44 (3.3)  | 0.00     |
| Antihypertensives              | 154 (11.5) | 1986 (10.5)| 0.03     | 153 (11.5)| 149 (11.2)| 0.01     |
| Antidiuretics                  | 274 (20.4) | 4218 (22.3)| 0.05     | 274 (20.5)| 286 (21.4)| 0.02     |
| Angiotensin converting enzyme inhibitors | 620 (46.2) | 8867 (46.9)| 0.01    | 619 (46.3)| 620 (46.4)| 0.00     |
| Gastrointestinal medications   | 178 (13.3) | 2722 (14.4)| 0.03     | 176 (13.2)| 173 (12.9)| 0.01     |
| Genitourinary medications      | 678 (50.6) | 10225 (54) | 0.07     | 677 (50.7)| 663 (49.6)| 0.02     |
| Hormones                       | 157 (11.7) | 2419 (12.8)| 0.03     | 156 (11.7)| 146 (10.9)| 0.02     |
| Musculoskeletal medications    | 340 (25.4) | 5416 (28.6)| 0.07     | 339 (25.4)| 304 (22.8)| 0.06     |
| Antiwheezes/brochodilators     | 329 (24.5) | 4848 (25.6)| 0.02     | 328 (24.6)| 345 (25.8)| 0.03     |
| Systemic decongestants and antitussives | 74 (5.5)   | 1002 (5.3) | 0.01     | 74 (5.5)  | 72 (5.4)  | 0.01     |
| Heart failure                  | 530 (39.5) | 6943 (36.7)| 0.06     | 527 (39.4)| 538 (40.3)| 0.02     |
| Acute myocardial infarction    | 129 (9.6)  | 1697 (9)   | 0.02     | 128 (9.6) | 140 (10.5)| 0.03     |
| Unstable angina and other acute ischemic heart disease | 87 (6.5)   | 1318 (7)  | 0.02     | 86 (6.4)  | 82 (6.1)  | 0.01     |

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| Condition                                                                 | Cases   | Controls | p-value | Cases   | Controls | p-value | Cases   | Controls | p-value | Cases   | Controls | p-value |
|--------------------------------------------------------------------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|
| Chronic angina and coronary artery disease                               | 757 (56.5) | 9826 (51.9) | 0.09 | 754 (56.4) | 791 (59.2) | 0.06 |
| Valvular/rheumatic heart disease                                         | 205 (15.3) | 3304 (17.5) | 0.06 | 205 (15.3) | 209 (15.6) | 0.01 |
| Other cardiac disease including congenital heart and hypertensive disease | 847 (63.2) | 11652 (61.6) | 0.03 | 843 (63.1) | 846 (63.3) | 0.00 |
| Arrhythmias and conduction disorders                                     | 666 (49.7) | 9708 (51.3) | 0.03 | 664 (49.7) | 663 (49.6) | 0.00 |
| Pleural effusion/pneumothorax                                            | 121 (9) | 1547 (8.2) | 0.03 | 121 (9.1) | 142 (10.6) | 0.05 |
| Chest pain                                                               | 362 (27) | 5118 (27) | 0.00 | 360 (26.9) | 351 (26.3) | 0.02 |
| Syncope                                                                  | 82 (6.1) | 1386 (7.3) | 0.05 | 82 (6.1) | 75 (5.6) | 0.02 |
| Acute stroke/transient ischemic attack                                   | 230 (17.2) | 3053 (16.1) | 0.03 | 227 (17) | 222 (16.6) | 0.01 |
| Pulmonary embolism/deep venous thrombosis                                | 77 (5.7) | 1145 (6) | 0.01 | 77 (5.8) | 74 (5.5) | 0.01 |
| Other peripheral vascular disease                                        | 294 (21.9) | 3868 (20.4) | 0.04 | 290 (21.7) | 311 (23.3) | 0.04 |
| Cardio-respiratory failure                                               | 33 (2.5) | 443 (2.3) | 0.01 | 32 (2.4) | 36 (2.7) | 0.02 |
| Chronic obstructive pulmonary disease/asthma                              | 640 (47.7) | 8341 (44.1) | 0.07 | 638 (47.8) | 658 (49.3) | 0.03 |
| Pneumonia including aspiration pneumonitis                               | 353 (26.3) | 4236 (22.4) | 0.09 | 351 (26.3) | 345 (25.8) | 0.01 |
| Septicemia/shock                                                         | 103 (7.7) | 1422 (7.5) | 0.01 | 102 (7.6) | 94 (7) | 0.02 |
| Urinary tract infection and urinary system complaints                     | 263 (19.6) | 3816 (20.2) | 0.01 | 262 (19.6) | 241 (18) | 0.04 |
| Cellulitis                                                               | 247 (18.4) | 3555 (18.8) | 0.01 | 246 (18.4) | 248 (18.6) | 0.00 |
| Clostridium difficile-associated infection                                | 14 (1) | 182 (1) | 0.01 | 14 (1) | 14 (1) | 0.00 |
| Renal disorders including renal failure and fluid, electrolyte, and acid-base abnormalities | 735 (54.8) | 9514 (50.3) | 0.09 | 730 (54.6) | 735 (55) | 0.01 |
| Anemia                                                                   | 457 (34.1) | 6422 (33.9) | 0.00 | 455 (34.1) | 439 (32.9) | 0.03 |
| Gastrointestinal hemorrhage                                              | 112 (8.4) | 1544 (8.2) | 0.01 | 112 (8.4) | 120 (9) | 0.02 |
| Fibrosis of lung and other chronic lung disorders                         | 57 (4.3) | 618 (3.3) | 0.05 | 57 (4.3) | 54 (4) | 0.01 |
| Hip fracture                                                             | 12 (0.9) | 163 (0.9) | 0.00 | 12 (0.9) | 14 (1) | 0.02 |
| Complications of care                                                    | 206 (15.4) | 2780 (14.7) | 0.02 | 205 (15.3) | 205 (15.3) | 0.00 |
| Other lung disorders including acute, congenital, and unspecified lung abnormalities | 595 (44.4) | 8164 (43.1) | 0.02 | 593 (44.4) | 579 (43.3) | 0.02 |
| Primary cancer of the trachea, bronchus, lung, and pleura                 | 43 (3.2) | 589 (3.1) | 0.01 | 43 (3.2) | 34 (2.5) | 0.04 |
| Other infections                                                         | 716 (53.4) | 10084 (53.3) | 0.00 | 713 (53.4) | 713 (53.4) | 0.00 |
| Cancer                                                                   | 298 (22.2) | 4611 (24.4) | 0.05 | 295 (22.1) | 246 (18.4) | 0.09 |
| Endocrine/metabolic                                                      | 1277 (95.2) | 17908 (94.6) | 0.03 | 1272 (95.2) | 1264 (94.6) | 0.03 |
| Liver disease                                                            | 111 (8.3) | 1675 (8.9) | 0.02 | 110 (8.2) | 125 (9.4) | 0.04 |
| Digestive (Gastrointestinal)                                             | 810 (60.4) | 11775 (62.2) | 0.04 | 807 (60.4) | 827 (61.9) | 0.03 |
| Musculoskeletal                                                          | 1079 (80.5) | 15349 (81.1) | 0.02 | 1075 (80.5) | 1062 (79.5) | 0.02 |
| Other hematologic                                                        | 219 (16.3) | 2930 (15.5) | 0.02 | 216 (16.2) | 203 (15.2) | 0.03 |

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| Category                                      | 148 (11) | 2082 (11) | 0.00  | 147 (11) | 169 (12.6) | 0.05  |
|----------------------------------------------|----------|-----------|-------|----------|------------|-------|
| Cognitive                                    | 140 (10.4) | 1972 (10.4) | 0.00  | 140 (10.5) | 133 (10)  | 0.02  |
| Substance abuse                              | 579 (43.2) | 8491 (44.9) | 0.03  | 577 (43.2) | 564 (42.2) | 0.02  |
| Psychiatric                                  | 15 (1.1) | 189 (1) | 0.01  | 15 (1.1) | 8 (0.6)  | 0.06  |
| Development disorders                        | 43 (3.2) | 562 (3) | 0.01  | 43 (3.2) | 41 (3.1) | 0.01  |
| Neuromuscular                                | 649 (48.4) | 9646 (51) | 0.05  | 647 (48.4) | 648 (48.5) | 0.00  |
| Non-acute cerebrovascular disease            | 225 (16.8) | 2902 (15.3) | 0.04  | 222 (16.6) | 219 (16.4) | 0.01  |
| Other pulmonary                              | 33 (2.5) | 491 (2.6) | 0.01  | 33 (2.5) | 28 (2.1) | 0.03  |
| Ophthalmologic                               | 1033 (77) | 15121 (79.9) | 0.07  | 1029 (77) | 1020 (76.3) | 0.02  |
| Ear, nose, and throat                        | 627 (46.8) | 9780 (51.7) | 0.10  | 626 (46.9) | 606 (45.4) | 0.03  |
| Other renal                                  | 257 (19.2) | 3400 (18) | 0.03  | 256 (19.2) | 250 (18.7) | 0.01  |
| Genitourinary                                | 716 (53.4) | 10409 (55) | 0.03  | 712 (53.3) | 691 (51.7) | 0.03  |
| Other dermatologic                           | 658 (49.1) | 9561 (50.5) | 0.03  | 656 (49.1) | 636 (47.6) | 0.03  |
| Injury excluding hip fracture                | 306 (22.8) | 4538 (24) | 0.03  | 305 (22.8) | 291 (21.8) | 0.03  |
| Symptoms (major and minor) excluding respiratory | 517 (38.6) | 7790 (41.2) | 0.05  | 516 (38.6) | 516 (38.6) | 0.00  |
| Miscellaneous surgical and non-surgical procedures | 1329 (99.1) | 18663 (98.6) | 0.05  | 1324 (99.1) | 1319 (98.7) | 0.04  |
| Durable medical equipment                    | 410 (30.6) | 5758 (30.4) | 0.00  | 408 (30.5) | 398 (29.8) | 0.02  |
| Other                                        | 1114 (83.1) | 15470 (81.7) | 0.04  | 1110 (83.1) | 1070 (80.1) | 0.08  |
| Skin ulcer including decubitus ulcer         | 165 (12.3) | 1829 (9.7) | 0.08  | 163 (12.2) | 150 (11.2) | 0.03  |
eTable 6. Baseline Characteristics Before and After Propensity Score Matching, Elevated Baseline HbA1c Subgroup

| Characteristic a | Before Propensity Score Matching | After Propensity Score Matching | SMD | SMD |
|------------------|----------------------------------|---------------------------------|-----|-----|
|                  | Intensified (N= 1,350)           | Not Intensified (N= 5,711)      |     |     |
|                  |                                  | SMD                             |     |     |
| Age, mean (SD), y| 71.8 (7)                         | 73.3 (7.7)                      | 0.21| 0.21|
| Male sex, No. (%)| 1323 (98)                        | 5633 (98.6)                     | 0.05| 0.05|
| Race/ethnicity, No. (%) | | | | |
| White            | 1037 (76.8)                      | 4582 (80.2)                     | 0.12| 0.03|
| Black            | 237 (17.6)                       | 805 (14.1)                      |     |     |
| Hispanic         | 11 (0.8)                         | 92 (1.6)                        | 0.05| 0.05|
| Other            | 65 (4.8)                         | 232 (4.1)                       | 0.02| 0.02|
| Median zip code household income, mean (SD), $ | 26194 (44060.3) | 27584.5 (50133.9) | 0.03| 0.01|
| VISN, No. (%)    |                                  |                                 |     |     |
| New England Health Care System | 50 (3.7) | 301 (5.3) | 0.20| 0.11|
| Healthcare New York/New Jersey | 71 (5.3) | 292 (5.1) | 0.20| 0.11|
| VISN4 Network    | 62 (4.6)                         | 253 (4.4)                       |     |     |
| Capitol Healthcare Network | 31 (2.3) | 146 (2.6) | 0.20| 0.11|
| Mid-Atlantic Health Care Network | 74 (5.5) | 316 (5.5) | 0.20| 0.11|
| Southeast Network | 90 (6.7) | 259 (4.5) | 0.20| 0.11|
| Sunshine Healthcare Network | 99 (7.3) | 538 (9.4) | 0.20| 0.11|
| MidSouth Healthcare Network | 74 (5.5) | 431 (7.5) | 0.20| 0.11|
| VISN 10 Healthcare System | 49 (3.6) | 216 (3.8) | 0.20| 0.11|
| Great Lakes Healthcare System | 130 (9.6) | 505 (8.8) | 0.20| 0.11|
| Heartland Network | 69 (5.1) | 276 (4.8) | 0.20| 0.11|
| South Central VA Healthcare Network | 171 (12.7) | 553 (9.7) | 0.20| 0.11|
| Heart of Texas Healthcare System | 63 (4.7) | 303 (5.3) | 0.20| 0.11|
| Southwest Healthcare Network | 53 (3.9) | 185 (3.2) | 0.20| 0.11|
| Rocky Mountain Network | 33 (2.4) | 140 (2.5) | 0.20| 0.11|
| Northwest Health Network | 43 (3.2) | 208 (3.6) | 0.20| 0.11|
| Sierra Pacific Network | 58 (4.3) | 269 (4.7) | 0.20| 0.11|
| Desert Pacific Healthcare Network | 71 (5.3) | 294 (5.1) | 0.20| 0.11|
| Midwest Healthcare Network | 59 (4.4) | 226 (4) | 0.20| 0.11|
| Pre-admission clinical characteristics, mean (SD) | | | | |
| Body mass index, kg/m² | 31.4 (6.5) | 31.2 (6.6) | 0.04| 0.04|
| Systolic BP, mmHg | 135.8 (18.2) | 134.6 (17.5) | 0.07| 0.07|

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### Diastolic BP, mmHg

|        | 74.7 (10.4) | 73.5 (10.1) | 0.11 | 74.5 (10.4) | 74.6 (10.7) | 0.00 |
|--------|-------------|-------------|------|-------------|-------------|------|
| Frailty score | 0.2 (0.1)   | 0.2 (0.1)   | 0.03 | 0.2 (0.1)   | 0.2 (0.1)   | 0.01 |

### Pre-admission diabetes management

|                         | 9.2 (1.6) | 8.6 (1.2) | 0.43 | 9.1 (1.5) | 9.1 (1.6) | 0.01 |
|-------------------------|-----------|-----------|------|-----------|-----------|------|
| Hemoglobin A1c, mean (SD) | 66.1 (23.8) | 66.7 (24) | 0.03 | 66.1 (23.7) | 65.7 (25.4) | 0.02 |
| Estimated glomerular filtration rate, mean (SD), mL/min per 1.73 m² | 16 (1.2) | 62 (1.1) | 0.01 | 14 (1.1) | 15 (1.2) | 0.01 |

### Pre-admission diabetes medication classes, No. (%) a

|                         | 513 (38) | 2670 (46.8) | 0.18 | 493 (39.1) | 489 (38.7) | 0.01 |
|-------------------------|-----------|-------------|------|------------|------------|------|
| Metformin               | 543 (40.2) | 3081 (53.9) | 0.28 | 532 (42.2) | 555 (44) | 0.04 |
| Sulfonylureas            | 45 (3.3) | 220 (3.9) | 0.03 | 44 (3.5) | 54 (4.3) | 0.04 |
| Thiazolidinediones       | 42 (3.1) | 131 (2.3) | 0.05 | 41 (3.2) | 49 (3.9) | 0.03 |
| α-glucosidase inhibitors | 26 (1.9) | 163 (2.9) | 0.06 | 25 (2) | 24 (1.9) | 0.01 |
| Dipeptidyl peptidase-4 inhibitors | 2 (0.1) | 21 (0.4) | 0.04 | 2 (0.2) | 1 (0.1) | 0.02 |
| Other classes            | 0 medications | 566 (41.9) | 1701 (29.8) | 507 (40.2) | 496 (39.3) | 0.03 |
|                         | PDC < 80% | 321 (23.8) | 1540 (27) | 309 (24.5) | 314 (24.9) | 0.03 |
|                         | PDC > 80% | 463 (34.3) | 2470 (43.2) | 446 (35.3) | 452 (35.8) | 0.02 |

### Diabetes medication classes used in prior year, No. (%) b

|                         | 712 (52.7) | 3045 (53.3) | 0.01 | 659 (52.2) | 662 (52.5) | 0.00 |
|-------------------------|-----------|-------------|------|------------|------------|------|
| Metformin               | 721 (53.4) | 3406 (59.6) | 0.13 | 687 (54.4) | 705 (55.9) | 0.03 |
| Sulfonylureas            | 61 (4.5) | 286 (5) | 0.02 | 59 (4.7) | 70 (5.5) | 0.04 |
| Thiazolidinediones       | 54 (4) | 160 (2.8) | 0.07 | 51 (4) | 57 (4.5) | 0.02 |
| Dipeptidyl peptidase-4 inhibitors | 19 (1.4) | 105 (1.8) | 0.03 | 19 (1.5) | 14 (1.1) | 0.03 |
| Insulins                | 416 (30.8) | 635 (11.1) | 0.50 | 348 (27.6) | 358 (28.4) | 0.02 |
| Other classes            | 5 (0.4) | 33 (0.6) | 0.03 | 5 (0.4) | 4 (0.3) | 0.01 |

### Pre-admission healthcare use, No. (%) c

|                         | 378 (28) | 1724 (30.2) | 0.05 | 357 (28.3) | 367 (29.1) | 0.02 |
|-------------------------|---------|-------------|------|------------|------------|------|
| Any Medicare utilization in prior year, No. (%) | 0.04 | 696 (51.6) | 2908 (50.9) | 656 (52) | 671 (53.2) | 0.04 |
| No. ED visits in the year preceding index hospitalization | 1.05 | 314 (23.3) | 1348 (23.6) | 288 (22.8) | 292 (23.1) | 0.03 |
|                         | 2       | 168 (12.4) | 659 (11.5) | 155 (12.3) | 151 (12) | 0.04 |
| No. hospitalizations in the year preceding index hospitalization | 0  | 1  | 2  | ≥3 |
|---------------------------------------------------------------|----|----|----|----|
| 956 (70.8)                                                   | 241 (17.9) | 93 (6.9) | 60 (4.4) |
| 4153 (72.7)                                                  | 956 (16.7) | 340 (6) | 262 (4.6) |
| 904 (70.8)                                                   | 220 (17.4) | 83 (6.6) | 55 (4.4) |
| 4153 (72.7)                                                  | 225 (17.8) | 95 (7.5) | 58 (4.6) |

| Admission medication count, mean (SD) | 7.2 (4.7) | 7.7 (5.2) | 7.3 (4.7) | 7.2 (4.9) |

| Polypharmacy (>8 medications), No. (%) | 637 (47.2) | 2974 (52.1) | 607 (48.1) | 602 (47.7) |

| Index hospitalization characteristics |
|---------------------------------------|
| Length of stay, mean (SD), d          | 6.5 (8.5) | 5.2 (5.6) | 6.1 (6.6) | 6.4 (8.9) |
| Year of hospitalization, No. (%)      | 0.08      |
|                                      | 0.06      |
| 2011                                  | 270 (20)  | 1171 (20.5) | 251 (19.9) | 269 (21.3) |
| 2012                                  | 223 (16.5) | 1011 (17.7) | 207 (16.4) | 211 (16.7) |
| 2013                                  | 210 (15.6) | 923 (16.2) | 203 (16.1) | 208 (16.5) |
| 2014                                  | 226 (16.7) | 910 (15.9) | 210 (16.6) | 189 (15)   |
| 2015                                  | 213 (15.8) | 949 (16.6) | 199 (15.8) | 185 (14.7) |
| 2016                                  | 208 (15.4) | 747 (13.1) | 192 (15.2) | 200 (15.8) |

| Training hospital, No. (%)            | 1197 (88.7) | 5141 (90) | 1123 (89) | 1129 (89.5) |

| Discharge diagnoses, No. (%)          |
|---------------------------------------|
| Arrhythmia                            | 12 (0.9) | 80 (1.4) | 12 (1) | 13 (1) |
| Asthma                                | 10 (0.7) | 18 (0.3) | 8 (0.6) | 6 (0.5) |
| Chronic obstructive pulmonary disease | 95 (7) | 379 (6.6) | 89 (7.1) | 97 (7.7) |
| Chest pain                            | 40 (3) | 194 (3.4) | 39 (3.1) | 36 (2.9) |
| Conduction disorders                  | 96 (7.1) | 569 (10) | 95 (7.5) | 89 (7.1) |
| Coronary artery disease               | 181 (13.4) | 665 (11.6) | 170 (13.5) | 159 (12.6) |
| Acute coronary syndrome               | 93 (6.9) | 420 (7.4) | 87 (6.9) | 82 (6.5) |
| Heart failure                         | 236 (17.5) | 856 (15) | 216 (17.1) | 219 (17.4) |
| Heart valve disorders                 | 24 (1.8) | 104 (1.8) | 24 (1.9) | 23 (1.8) |
| Pneumonia                             | 124 (9.2) | 583 (10.2) | 119 (9.4) | 120 (9.5) |
| Sepsis                                | 39 (2.9) | 176 (3.1) | 31 (2.5) | 29 (2.3) |
| Skin infection                        | 138 (10.2) | 555 (9.7) | 127 (10.1) | 112 (8.9) |
| Stroke                                | 105 (7.8) | 394 (6.9) | 97 (7.7) | 115 (9.1) |
| Transient ischemic attack             | 17 (1.3) | 92 (1.6) | 15 (1.2) | 20 (1.6) |
| Urinary tract infection               | 103 (7.6) | 480 (8.4) | 99 (7.8) | 101 (8)   |
| Venous thromboembolism                | 37 (2.7) | 146 (2.6) | 34 (2.7) | 41 (3.2) |

| Hospital blood glucose values, mean (SD) |
|------------------------------------------|
| Highest glucose                         | 335.5 (111.3) | 280.5 (89.5) | 326.5 (104.8) | 328.2 (102.9) |
| Lowest glucose                          | 112.5 (50) | 111.9 (41.3) | 113.4 (48.2) | 114.5 (47.4) |
| Standard deviation of hospital glucose recordings | 63.4 (30.6) | 50.2 (25.6) | 61.1 (29.1) | 61.3 (29.9) |

| Laboratory values at discharge, mean (SD) |
|--------------------------------------------|
| Glucose, mg/dL                            | 193.6 (74.5) | 184.5 (66.4) | 193.7 (73.7) | 196.4 (73.4) |
| Hemoglobin, g/dL                          | 12.1 (2) | 12.2 (1.9) | 12.2 (2) | 12.2 (1.9) |
|                      | Mean (SD)     | Median (Interquartile Range) | P Value  |
|----------------------|---------------|-----------------------------|----------|
| **Platelets, k/mm³** | 225.1 (85)    | 217 (82.7)                  | 0.10     |
| Sodium, mEq/L        | 137.6 (3.1)   | 137.7 (3.1)                 | 0.04     |
| Potassium, mEq/L     | 4.1 (0.4)     | 4.1 (0.4)                   | 0.01     |
| Blood urea nitrogen, mg/dL | 24.3 (14.6) | 23.1 (13.5)                  | 0.08     |
| Carbon dioxide, mEq/L| 27 (3.8)      | 26.8 (3.8)                  | 0.05     |
| Estimated glomerular filtration rate, mL/min per 1.73 m² | 67.5 (26.4) | 69 (27.5)                  | 0.06     |

### Other medication classes used at hospital admission, No. (%)

| Medication Class                          | Mean (SD)     | Median (Interquartile Range) | P Value  |
|-------------------------------------------|---------------|-----------------------------|----------|
| Antihistamines                            | 142 (10.5)    | 693 (12.1)                  | 0.05     |
| Antimicrobials                            | 47 (3.5)      | 166 (2.9)                   | 0.03     |
| Antineoplastics                           | 26 (1.9)      | 116 (2)                     | 0.01     |
| Autonomic medications                     | 13 (1)        | 89 (1.6)                    | 0.05     |
| Anticoagulants                            | 134 (9.9)     | 758 (13.3)                  | 0.10     |
| Other central nervous system medications  | 94 (7)        | 408 (7.1)                   | 0.01     |
| Non-opioid analgesics                     | 366 (27.1)    | 1553 (27.2)                 | 0.00     |
| Opioid analgesics                         | 233 (17.3)    | 991 (17.4)                  | 0.00     |
| Sedative/hypnotics                        | 109 (8.1)     | 525 (9.2)                   | 0.04     |
| Anticonvulsants                           | 250 (18.5)    | 918 (16.1)                  | 0.06     |
| Antidepressants                           | 314 (23.3)    | 1273 (22.3)                 | 0.02     |
| Antipsychotics                            | 37 (2.7)      | 200 (3.5)                   | 0.04     |
| Digitalis glycosides                      | 47 (3.5)      | 266 (4.7)                   | 0.06     |
| Beta blockers                             | 629 (46.6)    | 2709 (47.4)                 | 0.02     |
| Alpha blockers                            | 321 (23.8)    | 1442 (25.2)                 | 0.03     |
| Calcium channel blockers                  | 365 (27)      | 1499 (26.2)                 | 0.02     |
| Antianginals                              | 214 (15.9)    | 856 (15)                    | 0.02     |
| Antiarrhythmics                           | 21 (1.6)      | 86 (1.5)                    | 0.00     |
| Antilipemics                              | 830 (61.5)    | 3520 (61.6)                 | 0.00     |
| Other antihypertensives                    | 125 (9.3)     | 513 (9)                     | 0.01     |
| Diuretics                                 | 256 (19)      | 1062 (18.6)                 | 0.01     |
| Loop diuretics                            | 307 (22.7)    | 1304 (22.8)                 | 0.00     |
| Angiotension converting enzyme inhibitors | 539 (39.9)    | 2217 (38.8)                 | 0.02     |
| Angiotensin II receptor blockers           | 169 (12.5)    | 729 (12.8)                  | 0.01     |
| Gastrointestinal medications              | 540 (40)      | 2399 (42)                   | 0.04     |
| Genitourinary medications                 | 126 (9.3)     | 628 (11)                    | 0.06     |
| Hormones                                  | 277 (20.5)    | 1284 (22.5)                 | 0.05     |
| Musculoskeletal medications               | 253 (18.7)    | 1032 (18.1)                 | 0.02     |
| Antiasthma/brochodilators                 | 13 (1)        | 87 (1.5)                    | 0.05     |
| Systemic decongestants and antitussives   | 45 (3.3)      | 229 (4)                     | 0.04     |

### Comorbidities, No. (%)

| Comorbidities                             | Mean (SD)     | Median (Interquartile Range) | P Value  |
|-------------------------------------------|---------------|-----------------------------|----------|
| Heart failure                             | 507 (37.6)    | 2012 (35.2)                 | 0.05     |
| Acute myocardial infarction               | 133 (9.9)     | 604 (10.6)                  | 0.02     |
| Unstable angina and other acute ischemic heart disease | 85 (6.3) | 411 (7.2)                  | 0.04     |

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| Condition                                      | Count | Percentage | P Value |
|-----------------------------------------------|-------|------------|---------|
| Chronic angina and coronary artery disease     | 664 (49.2) | 2969 (52) | 0.06    |
| Valvular/rheumatic heart disease              | 168 (12.4) | 817 (14.3) | 0.05    |
| Other cardiac disease including congenital heart and hypertensive disease | 801 (59.3) | 3497 (61.2) | 0.04    |
| Arrhythmias and conduction disorders           | 572 (42.4) | 2719 (47.6) | 0.11    |
| Pleural effusion/pneumothorax                  | 86 (6.4) | 443 (7.8) | 0.05    |
| Chest pain                                     | 312 (23.1) | 1433 (25.1) | 0.05    |
| Syncope                                        | 75 (5.6) | 342 (6) | 0.02    |
| Acute stroke/transient ischemic attack         | 242 (17.9) | 996 (17.4) | 0.01    |
| Pulmonary embolism/deep venous thrombosis     | 86 (6.4) | 375 (6.6) | 0.01    |
| Other peripheral vascular disease              | 297 (22) | 1199 (21) | 0.02    |
| Cardio-respiratory failure                     | 30 (2.2) | 127 (2.2) | 0.00    |
| Chronic obstructive pulmonary disease/asthma   | 500 (37) | 2202 (38.6) | 0.03    |
| Pneumonia including aspiration pneumonitis     | 269 (19.9) | 1136 (19.9) | 0.00    |
| Septicemia/shock                               | 91 (6.7) | 406 (7.1) | 0.01    |
| Urinary tract infection and urinary system complaints | 251 (18.6) | 1071 (18.8) | 0.00    |
| Cellulitis                                     | 283 (21) | 1137 (19.9) | 0.03    |
| Clostridium difficile-associated infection      | 13 (1) | 54 (0.9) | 0.00    |
| Renal disorders including renal failure and fluid, electrolyte, and acid-base abnormalities | 688 (51) | 2768 (48.5) | 0.05    |
| Anemia                                         | 402 (29.8) | 1670 (29.2) | 0.01    |
| Gastrointestinal hemorrhage                    | 80 (5.9) | 372 (6.5) | 0.02    |
| Fibrosis of lung and other chronic lung disorders | 29 (2.1) | 177 (3.1) | 0.06    |
| Hip fracture                                   | 10 (0.7) | 35 (0.6) | 0.02    |
| Complications of care                          | 161 (11.9) | 788 (13.8) | 0.06    |
| Other lung disorders including acute, congenital, and unspecified lung abnormalities | 495 (36.7) | 2313 (40.5) | 0.08    |
| Primary cancer of the trachea, bronchus, lung, and pleura | 26 (1.9) | 144 (2.5) | 0.04    |
| Other infections                               | 664 (49.2) | 2957 (51.8) | 0.05    |
| Cancer                                         | 235 (17.4) | 1191 (20.9) | 0.09    |
| Endocrine/metabolic                            | 1255 (93) | 5364 (93.9) | 0.04    |
| Liver disease                                  | 112 (8.3) | 474 (8.3) | 0.00    |
| Digestive (Gastrointestinal)                   | 702 (52) | 3238 (56.7) | 0.09    |
| Musculoskeletal                                | 990 (73.3) | 4390 (76.9) | 0.08    |
| Other hematologic                              | 181 (13.4) | 744 (13) | 0.01    |
| Category                                      | Count (Cases) | Rate (Total) | p-value | Count (Cases) | Rate (Total) | p-value |
|----------------------------------------------|---------------|--------------|---------|---------------|--------------|---------|
| Cognitive                                    | 142 (10.5)    | 717 (12.6)   | 0.06    | 131 (10.4)    | 139 (11)    | 0.02    |
| Substance abuse                              | 151 (11.2)    | 473 (8.3)    | 0.10    | 131 (10.4)    | 141 (11.2)  | 0.03    |
| Psychiatric                                  | 607 (45)      | 2455 (43)    | 0.04    | 562 (44.5)    | 564 (44.7)  | 0.00    |
| Development disorders                        | 16 (1.2)      | 62 (1.1)     | 0.01    | 13 (1)        | 10 (0.8)    | 0.03    |
| Spinal cord                                  | 37 (2.7)      | 171 (3)      | 0.02    | 35 (2.8)      | 38 (3)      | 0.01    |
| Neuromuscular                                | 698 (51.7)    | 2844 (49.8)  | 0.04    | 644 (51)      | 636 (50.4)  | 0.01    |
| Non-acute cerebrovascular disease            | 174 (12.9)    | 835 (14.6)   | 0.05    | 165 (13.1)    | 155 (12.3)  | 0.02    |
| Other pulmonary                              | 28 (2.1)      | 125 (2.2)    | 0.01    | 27 (2.1)      | 33 (2.6)    | 0.03    |
| Ophthalmologic                               | 1031 (76.4)   | 4520 (79.1)  | 0.07    | 965 (76.5)    | 955 (75.7)  | 0.02    |
| Ear, nose, and throat                        | 535 (39.6)    | 2747 (48.1)  | 0.17    | 510 (40.4)    | 504 (39.9)  | 0.01    |
| Other renal                                  | 230 (17)      | 1004 (17.6)  | 0.01    | 206 (16.3)    | 224 (17.7)  | 0.04    |
| Genitourinary                                | 667 (49.4)    | 2855 (50)    | 0.01    | 623 (49.4)    | 617 (48.9)  | 0.01    |
| Other dermatologic                           | 614 (45.5)    | 2663 (46.6)  | 0.02    | 568 (45)      | 589 (46.7)  | 0.03    |
| Injury excluding hip fracture                 | 294 (21.8)    | 1350 (23.6)  | 0.04    | 279 (22.1)    | 265 (21)    | 0.03    |
| Symptoms (major and minor) excluding respiratory | 492 (36.4)   | 2173 (38)   | 0.03    | 452 (35.8)   | 458 (36.3)  | 0.01    |
| Miscellaneous surgical and non-surgical procedures | 1318 (97.6)   | 5593 (97.9)  | 0.02    | 1231 (97.5)   | 1221 (96.8) | 0.05    |
| Durable medical equipment                    | 357 (26.4)    | 1626 (28.5)  | 0.05    | 335 (26.5)    | 335 (26.5)  | 0.00    |
| Other                                        | 1038 (76.9)   | 4556 (79.8)  | 0.07    | 970 (76.9)    | 957 (75.8)  | 0.02    |
| Skin ulcer including decubitus ulcer         | 175 (13)      | 683 (12)     | 0.03    | 160 (12.7)    | 162 (12.8)  | 0.00    |
**eTable 7. Secondary Clinical Outcomes Associated with Receiving Diabetes Medication Intensifications at Hospital Discharge in Subgroups with Controlled and Elevated Prehospitalization Hemoglobin A₁c Subgroups**

|                   | Controlled Baseline HbA₁c Subgroup (HbA₁c≤7.5%) | Elevated Baseline HbA₁c Subgroup (HbA₁c>7.5%) |
|-------------------|-------------------------------------------------|---------------------------------------------|
|                   | No. (%) of Patients                              | No. (%) of Patients                         | Hazard Ratio (95% CI) |
|                   | Intensified (N=1,336)                            | Not Intensified (N=1,336)                   | (95% CI)              |
| Secondary outcomes|                                                 |                                             |                        |
| Mortality         |                                                 |                                             |                        |
| 30 days           | 21 (1.6)                                        | 33 (2.5)                                   | 0.63 (0.35 to 1.15)   |
| 365 days          | 236 (17.7)                                      | 249 (18.6)                                 | 0.93 (0.78 to 1.11)   |
| Readmission       |                                                 |                                             |                        |
| 30 days           | 242 (18.1)                                      | 258 (19.3)                                 | 0.93 (0.78 to 1.10)   |
| 365 days          | 729 (54.6)                                      | 720 (53.9)                                 | 1.01 (0.92 to 1.10)   |

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**eTable 8. Difference in Differences Analysis of Hemoglobin A\textsubscript{1c} Values One Year Following Discharge With or Without Diabetes Medication Intensifications in Controlled and Elevated Baseline HbA\textsubscript{1c} Subgroups**

| HbA\textsubscript{1c}, Mean (95% CI), % | **Controlled Baseline HbA\textsubscript{1c} Subgroup** | **Elevated Baseline HbA\textsubscript{1c} Subgroup** |
|--------------------------------------|------------------------------------------------------|-------------------------------------------------|
|                                      | Intensified Regimen (N=1,071) | Not Intensified Regimen (N=1,027) | Intensified Regimen (N=1,051) | Not Intensified Regimen (N=983) |
| Baseline                             | 6.84 (6.78 to 6.90)          | 6.83 (6.77 to 6.89)          | 9.06 (8.96 to 9.15)          | 9.00 (8.89 to 9.10)          |
| Post-baseline \textsuperscript{b}     | 7.19 (7.14 to 7.25)          | 7.16 (7.10 to 7.22)          | 8.26 (8.16 to 8.36)          | 8.36 (8.26 to 8.47)          |
| Pre-post change                      | 0.36 (0.28 to 0.44)          | 0.33 (0.25 to 0.41)          | -0.79 (-0.93 to -0.65)       | -0.63 (-0.78 to -0.49)       |
| Difference-in-differences estimate \textsuperscript{c} | 0.03 (-0.09 to 0.14)          |                                   | -0.16 (-0.36 to 0.04)       |

Abbreviations: SD, standard deviation, HbA\textsubscript{1c}, hemoglobin A\textsubscript{1c}

\textsuperscript{a} The results are from patients in each propensity-matched cohort who met the inclusion criteria for the HbA\textsubscript{1c} analysis (outpatient HbA\textsubscript{1c} measured between 6 months and 18 months following index hospitalization discharge). Mean (SD) number of days between baseline and postbaseline measures for controlled baseline HbA\textsubscript{1c} subgroup: 281 (80) days for intensified group and 283 (84) days for not intensified group. Mean (SD) number of days between baseline and postbaseline measures for elevated baseline HbA\textsubscript{1c} subgroup: 274 (78) days for intensified group and 276 (83) days for not intensified group.

\textsuperscript{b} The post-discharge HbA\textsubscript{1c} was assessed prior to censoring as the HbA\textsubscript{1c} recorded at the closest date to 1 year following index hospitalization discharge, within the range for 6 to 18 months following discharge.

\textsuperscript{c} Calculated as the pre-post change in HbA\textsubscript{1c} for the intensified regimen group minus the pre-post change in HbA\textsubscript{1c} for the not intensified group.
**eFigure 1. Flow Diagram of Underlying Study Population**

149,975 Adults age 65 years and older with diabetes who were hospitalized in a VA hospital between 01/01/2011 and 09/28/2016 for specified medical conditions

| 28,188 | Excluded for having a length of stay < 2 days (n=121,787) |
| 40,228 | Excluded for having substantial non-VA care (n=81,559) |
| 33,353 | Enrolled in Medicare Managed Care plan at any time between 2 years before and 1 year after index date |
| 3,610  | Received <80% of outpatient visits in VA in year before index date |
| 1,678  | Received <80% of outpatient visits in VA in year after index date |
| 1,587  | Received outpatient medications from VA pharmacy on <=1 unique date in the 1 year before the index date or <=2 unique dates in the 1 year after the index date |
| 2,413  | Excluded for having an discharge diagnosis of diabetic ketoacidosis or nonketotic hyperglycemic-hyperosmolar coma (n=79,146) |
| 18,089 | Excluded for care in which medications may be received from sources other than VA outpatient pharmacy* (n=61,057) |
| 1,662  | Died during hospitalization |
| 6,047  | Admission from acute hospital, skilled nursing, or long-term care facility |
| 9,398  | Discharge to acute hospital, skilled nursing, or long-term care facility |
| 982    | Discharged to hospice |
| 20,714 | Excluded for taking insulin on admission (N=40,343) |
| 12,415 | Excluded for having HbA1c<6.5 or missing and not taking any diabetes medications (N=28,189) |
| 28,189 | Patients in final cohort |
**eFigure 2.** Propensity Score Distributions Before and After Matching

**Before Matching**

![Propensity Score Distribution Before Matching](image)

**After Matching**

![Propensity Score Distribution After Matching](image)
**eFigure 3.** Propensity Score Distributions Before and After Matching in Controlled and Elevated Baseline HbA$_{1c}$ Subgroups

A) Controlled HbA$_{1c}$ Subgroup
B) Elevated HbA1c Subgroup

Before Matching

After Matching

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