

Table S1. ICD-10-CM Codes for Hyperglycemia and Hypoglycemia

ICD-10-CM Code	Description
Hyperglycemia^{15,16}	
R73.9	Hyperglycemia, unspecified
E10.65	Type 1 diabetes mellitus with hyperglycemia
E11.65	Type 2 diabetes mellitus with hyperglycemia
E11.10	Type 2 DM with ketoacidosis
E11.11	Type 2 DM with ketoacidosis and coma
E10.10	Type 1 DM with ketoacidosis
E10.11	Type 1 DM with ketoacidosis and coma
E11.01	Type 2 DM with nonketotic hyperglycemic hyperosmolar coma
E13.01	Other specified DM with nonketotic...
E13.10	Other specified DM with ketoacidosis
E13.11	Other specified DM with ketoacidosis and coma
Hypoglycemia¹⁷	
E08.641	Diabetes mellitus due to underlying condition with hypoglycemia with coma
E11.641	Type 2 diabetes mellitus with hypoglycemia with coma
E11.649	Type 2 diabetes mellitus with hypoglycemia without coma
E13.641	Other specified diabetes mellitus with hypoglycemia with coma
E13.649	Other specified diabetes mellitus with hypoglycemia without coma
E15	Nondiabetic hypoglycemic coma
E16.0	Drug-induced hypoglycemia without coma
E16.1	Other hypoglycemia
E16.2	Hypoglycemia, unspecified
E08.649	Diabetes mellitus due to underlying condition with hypoglycemia without coma
E09.641	Drug or chemical induced diabetes mellitus with hypoglycemia with coma
E09.649	Drug or chemical induced diabetes mellitus with hypoglycemia without coma
E10.641	Type 1 diabetes mellitus with hypoglycemia with coma
E10.649	Type 1 diabetes mellitus with hypoglycemia without coma

ICD-10-CM=International Classification of Diseases, 10th Revision

Table S2. Baseline Characteristics of Subsample of Patients Receiving Originator Insulin Glargine or Insulin Glargine-yfgn who were Followed for 3+ Months and had HbA1C Measured

Characteristic (Total N=177,122)	Prevalent Originator Non-switcher ¹ N=136,755 (77.2%) n (%)	Originator Switch to Biosimilar ² N=14,538 (8.2%) n (%)	Standardized Difference ³	Incident Originator Non-switcher ⁴ N=23,966 (13.5%) n (%)	Incident Biosimilar ⁵ N=1,863 (1.1%) n (%)	Standardized Difference ³
Age (years), mean (SD)	69.1 (10.3)	69.2 (10.5)	0.0027	66.0 (12.0)	67.2 (11.8)	0.0932
18-64	39,663 (29.0)	4402 (30.3)	0.028	9978 (41.6)	764 (41.0)	-0.0127
65-74	62,456 (45.7)	5923 (40.7)	-0.0996	8752 (36.5)	605 (32.5)	-0.0851
75+	34,636 (25.3)	4213 (29.0)	0.0822	5236 (21.8)	494 (26.5)	0.1092
Sex, male	130,378 (95.4)	13,676 (94.5)	-0.0399	21,596 (93.7)	1649 (92.1)	-0.0636
Race/Ethnicity						
Non-Hispanic White	101,513 (74.4)	10,060 (69.4)	-0.1119	16,309 (68.8)	1242 (67.1)	-0.0295
Non-Hispanic Black	25,954 (19.0)	3281 (22.6)	0.0886	5302 (22.4)	417 (22.5)	0.0063
Hispanic	2989 (2.2)	645 (4.5)	0.1261	745 (3.1)	95 (5.1)	0.1005
Other	1560 (1.1)	156 (1.1)	-0.0065	228 (1.0)	25 (1.4)	0.0367
Asian	1284 (0.9)	79 (0.5)	-0.0461	313 (1.3)	21 (1.1)	-0.0163
American Indian	897 (0.7)	71 (0.5)	-0.0222	191 (0.8)	6 (0.3)	-0.0637
Unknown	2194 (1.6)	194 (1.3)	-0.0135	630 (2.7)	45 (2.4)	-0.0335
Marital Status						
Married	81,895 (60.1)	9083 (62.6)	0.0532	13,243 (55.8)	1121 (60.3)	0.0996
Divorced, separated, or widowed	42,253 (31.0)	4294 (29.6)	-0.0296	7825 (32.9)	553 (29.8)	-0.0641
Never married	12,043 (8.8)	1123 (7.7)	-0.0393	2684 (11.3)	184 (9.9)	-0.0431
Smoking Status						
Current smoker	23,041 (17.4)	2257 (15.7)	-0.0359	4631 (20.2)	313 (17.3)	-0.0656
Former smoker	62,080 (46.9)	6266 (43.7)	-0.0462	9668 (42.2)	769 (42.4)	0.0191
Never smoker	47,374 (35.8)	5816 (40.6)	0.1111	8620 (37.6)	730 (40.3)	0.0664
Charlson Comorbidity Index (adapted),⁶ mean (SD)	3.1 (1.9)	3.4 (2.0)	0.1408	2.9 (2.0)	3.2 (2.1)	0.1523
Other Comorbidities⁶						
Neuropathy	48,900 (35.8)	5702 (39.2)	0.0716	6685 (27.9)	569 (30.5)	0.0583
Ischemic stroke	3934 (2.9)	442 (3.0)	0.0097	545 (2.3)	53 (2.8)	0.0362

Hypertension	112,537 (82.3)	12,491 (85.9)	0.0994	18,346 (76.6)	1496 (80.3)	0.0913
Retinopathy	26,046 (19.0)	3299 (22.7)	0.0898	3274 (13.7)	276 (14.8)	0.033
Nephropathy	37,092 (27.1)	4380 (30.1)	0.0665	5190 (21.7)	504 (27.1)	0.126
Concomitant Therapies at Index Prescription⁷						
Any non-insulin glargine medication for diabetes	110,069 (80.5)	12,001 (82.5)	0.0532	18,806 (78.5)	1468 (78.8)	0.008
Metformin	57,981 (42.4)	5981 (41.1)	-0.0255	10,652 (44.4)	845 (45.4)	0.0183
Insulin, fast-acting	46,584 (34.1)	5276 (36.3)	0.0467	7037 (29.4)	596 (32.0)	0.057
Sulfonylurea	19,724 (14.4)	1825 (12.6)	-0.0548	5150 (21.5)	409 (22.0)	0.0113
Glucagon-like peptide-1 (GLP-1) receptor agonist	21,308 (15.6)	2580 (17.7)	0.0581	2899 (12.1)	178 (9.6)	-0.0819
Thiazolidinedione	4367 (3.2)	450 (3.1)	-0.0056	913 (3.8)	84 (4.5)	0.035
Meglitinide	156 (0.1)	8 (0.1)	-0.0203	22 (0.1)	1 (0.1)	-0.0141
Sodium-Glucose Cotransporter 2 (SGLT2) Inhibitor	22,967 (16.8)	3713 (25.5)	0.2153	4584 (19.1)	456 (24.5)	0.1298
Dipeptidyl Peptidase 4 (DPP-4) Inhibitor	13,684 (10.0)	1396 (9.6)	-0.0136	3013 (12.6)	240 (12.9)	0.0093
Alpha-Glucosidase Inhibitor	407 (0.3)	45 (0.3)	0.0022	79 (0.3)	13 (0.7)	0.0515
Number of Concomitant Antidiabetic Medications, mean (SD)	1.4 (1.0)	1.5 (1.0)	0.0951	1.4 (1.0)	1.4 (1.0)	0.0045
Glucose Monitoring Sensor, at index date	7677 (5.6)	1379 (9.5)	0.1469	1128 (4.7)	93 (5.0)	0.0133
Baseline HbA1c (%),⁸ mean (SD)	8.6 (2.9)	8.2 (1.7)	-0.182	9.5 (2.6)	9.4 (2.4)	-0.0251
Baseline HbA1c <7%⁸	27,115 (20.3)	3223 (22.3)	0.0475	2903 (12.7)	226 (12.4)	-0.0084
VHA Hospitalizations and/or ER Visits⁶						
Hypoglycemia	65 (0.0)	12 (0.1)	0.0137	9 (0.0) ⁹	1 (0.1) ⁹	0.0076
Hyperglycemia	3012 (2.2)	422 (2.9)	0.0444	1491 (6.2)	142 (7.6)	0.0552

SD=standard deviation; HbA1c=glycated hemoglobin; VHA=Veterans Health Administration; ER=emergency room

¹ Index prescription is for the originator product, and patients received the originator within one year prior to the index date. Patients received only the originator product for the duration of the study.

² Index prescription is for the biosimilar, and patients received originator insulin glargine within one year prior to the index date. Additional switches could occur after starting the biosimilar.

³ Standardized difference was calculated as the difference in means or proportions divided by a pooled estimate of the standardized deviation. This measure of the distribution is not influenced by sample sizes and provides a sense of the relative magnitude of the differences. A standardized difference less than 0.1 is considered negligible. Data were missing for sex 0.6%, race/ethnicity 2.1%, marital status 0.5%, smoking status 3.1%, and baseline HbA1c 2.6%.

⁴ Index prescription is for the originator product, and patients did not receive the originator within one year prior to the index date. Patients received only the originator product for the duration of the study.

⁵ Index prescription is for the biosimilar, and patients did not receive the originator within one year prior to the index date. However, patients could be switched to the originator from the biosimilar product during the study timeframe. Additional switches could also occur after changing to the originator.

⁶ Within 12 months prior to index date

⁷ Days' supply of concomitant medications overlapped with index prescription date. However, patient may have stopped concomitant medication prior to starting insulin glargine product.

⁸ Most recent HbA1c prior to the index prescription date

⁹ Results do not provide an accurate estimate due to small numbers (cell count <11)