

Supplemental Table S1. List of Diagnoses, Treatments, Procedures, and Their Corresponding Codes

	ICD codes
Drug	
Metformin	A10BA
Sulfonylurea	A10BB, A10BD02, A10BD04, A10BD06
DPP-4i	A10BH, A10BD07, A10BD08, A10BD09, A10BD10, A10BD11, A10BD13, A10BD18, A10BD
SGLT2i	A10BK01, A10BK02, A10BK03, A10BD15, A10BD16, A10BD20, A10BX
Thiazolidinedione	A10BG, A10BD03, A10BD04, A10BD05, A10BD06, A10BD09, A10BD (lobeglitazone+metformin)
Glucagon-like peptide-1 agonist	A10BJ
Meglitinide	A10BX02, A10BX03, A10BX08, A10BD14, A10BD (mitiglinide calcium+metformin, nateglinide+metformin)
Alpha glucosidase inhibitor	A10BF, A10BD (voglibose+metformin)
Insulin	A10A
Low dose acetylic salicylic acid	B01AC06
Statin	C10AA
ACE inhibitors	C09A, C09B
ARB	C09C, C09D (exclude C09DX04)
Dihydropyridines	C08C
Low ceiling diuretics	C03A, C03B
Beta blockers	C07
Non-hydropyridines	C08D
High ceiling diuretics	C03C
Aldosterone antagonists	C03DA
Warfarin	B01AA03
Comorbidities	
Myocardial infarction	I21, I22
CABG	O1640, O1641, O1642, O1643, O1644, O1645, O1646, O1647, O1648, O1649, OA640, OA641, OA642, OA647, OA648, OA649
PCI with stent	M6551, M6552, M6561, M6562, M6563, M6564, M6565, M6566, M6567
Unstable angina	I20.0
Angina pectoris	I20.1, I20.8, I20.9
Heart failure	I50
Atrial fibrillation	I48
Stroke	I60-I66
Hemorrhagic	I60-I62
Ischemic	I63-I64
Peripheral artery disease	ICD-10 code (I70-79) and procedure code (M6597, M6605, M6613, M6632, M6620, O0161~O0171, O1643-4, O1645~6), I70.2-3, I70.9, I73.1, I73.8-9
Chronic kidney disease	N18
Diabetic neuropathy	G99.0, G59.0, G63.2, E10.4, E11.4, E12.4, E13.4, E14.4
Diabetic retinopathy	H28.0, H35.8, H36.0, E10.3, E11.3, E12.3, E13.3, E14.3
Diabetic nephropathy	N08.3, E10.2, E11.2, E12.2, E13.2, E14.2
Severe hypoglycemia	E10.0, E11.0, E11.63, E12.0, E13.0, E14.0, E16.0-2
Cancer	C00-C99
Frailty	Defined as ≥ 1 hospital stay of ≥ 3 days within 1 year before the index date

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Supplemental Table S1. Continued

	ICD codes
Outcomes	
HHF	I50
Myocardial infarction	I21, I22
Stroke	I60-I64
Hypoglycemia	E10.0, E11.0, E11.63, E12.0, E13.0, E14.0, E16.0-2

ICD, International Classification of Diseases; DPP-4i, dipeptidyl peptidase-4 inhibitor; SGLT2i, sodium-glucose cotransporter-2 inhibitor; ACE, angiotensin converting enzyme; ARB, angiotensin receptor blocker; CABG, coronary artery bypass graft; PCI, percutaneous coronary intervention; HHF, hospitalization for heart failure.