

**Supplementary Table 2. Operational definition of cardiovascular diseases**

ICD-10-CM code and definition	Diagnostic definition	Condition (hospitalization, outpatient clinic condition)
Hypertension	I10–I13, I15; and minimum 1 prescription of anti-hypertensive drug (thiazide, loop diuretics, aldosterone antagonist, alpha-/beta-blocker, calcium-channel blocker, angiotensin-converting enzyme inhibitor, angiotensin II receptor blocker).	Admission $\geq$ 1 or outpatient department $\geq$ 2
Diabetes mellitus	E11–E14; (KCD) and minimum 1 prescription of anti-diabetic drugs (sulfonylureas, metformin, meglitinides, thiazolidinediones, dipeptidyl peptidase-4 inhibitors, $\alpha$ -glucosidase inhibitors and insulin).	Admission $\geq$ 1 or outpatient department $\geq$ 2
Dyslipidemia	E78; and minimum 1 prescription of lipid lowering agent	Admission or outpatient department $\geq$ 1
Atrial fibrillation	I480 (I48.4)–484 (I48.4), I489 (I48.9)	Admission or outpatient department $\geq$ 1
Heart failure	I50	Admission or outpatient department $\geq$ 1
Myocardial infarction	I21, I22	Admission or outpatient department $\geq$ 1
COPD	J41–44	Admission or outpatient department $\geq$ 1
ESRD	N18; N19; Z49; Z905 (Z90.5); Z94; Z992 (Z99.2)	Admission or outpatient department $\geq$ 1
Pulmonary embolism	I26	Admission $\geq$ 1
Deep vein thrombosis	I802 (I80.2)	Admission $\geq$ 1
Ischemic stroke	I63, I64	Admission $\geq$ 1
Intracranial hemorrhage	I60–62	Admission $\geq$ 1
Peripheral artery disease	I70, I73	Admission or outpatient department $\geq$ 2

ICD-10-CM, International Classification of Diseases, Tenth Revision, Clinical Modification; KCD, Korean standard, classification of diseases; COPD, chronic obstructive pulmonary disorder; ESRD, end stage renal disease.