

SUPPLEMENTAL MATERIAL

Table S1. Definitions on comorbidity and concomitant medication according to ICD-10 codes and ATC-codes.

Diagnoses	International Classification of Diseases 10th revision (ICD-10) code	Anatomical Therapeutic Chemical (ATC) code
Atrial fibrillation	I48	
Sepsis	A02.1 A28.2B A267 A327 A392 A394 A40 A41 A42.7 A49.9A B37.7 B49.9A R572	
Severe sepsis	A419C R572	
Ischemic stroke	I63 I64	
Systemic embolism	I74	
Prior bleeding	K250 K252 K254 K260 K262 K264 K270 K272 K274 K280 K282 K290 K920 K921 K922 D62 J942 H113 H356 H431 N02 R04 R31 R58	
Prior stroke		
Heart failure or LVD	I110 I130 I132 I420 I50	
Hypertension		See specified definition ^a
Vascular disease	I702 I703 I704 I705 I706 I707 I708 I709 I71 I739	
Renal dysfunction	I12 I13 N00 N01 N02 N03 N04 N05 N07 N11 N14 N17 N18 N19 Q61	
Diabetes	E100 E101 E109 E110 E111 E119	A10
Chronic pulmonary disease	J40 J41 J42 J43 J44 J45 J46 J47 J60 J61 J62 J63 J64 J65 J67 J684 J701 J703 J841 J920 J961 J982 J983	
Cancer	C	
Alcohol-related disease	E224 E529A F10 G312 G621 G721 I426 K292 K70 K860	

	L278A O354 T51 Z714 Z721	
Osteoporosis		
Dementia	F00 F01 F02 F03 G30	
Depression	F32 F33	
Pneumonia within last 365 days	J12 J13 J14 J15 J16 J17 J18 A481 A709	
Ulcer disease	K221 K25 K26 K27 K28	
Medications within 365 days before index date		
Coumarin		B01AA
NOAC		B01AF01 B01AF02 B01AE07
Digoxin		C01AA05
Non-loop diuretics		C02DA C02L C03A C03B C03D C03E C03X C07C C07D C08G C09BA C09DA C09XA52
Loop diuretics		C03C
Beta-blocker		C07
Calcium channel blocker		C07F C08 C09BB C09DB
Renin-angiotensin inhibitor		C09
Aspirin		B01AC06
Clopidogrel		B01AC04
Statins		C10
NSAID		M01A
Systemic corticosteroids		H02
Proton pump inhibitors		A02BC

Abbreviations: NOAC, Non-vitamin K oral anticoagulant; NSAID, Non-steroidal anti-inflammatory drugs.

^aWe identified subjects with hypertension from combination treatment with at least two of the following classes of antihypertensive drugs:

I. Alpha adrenergic blockers (C02A, C02B, C02C)

II· Non-loop diuretics (C02DA, C02L, C03A, C03B, C03D, C03E, C03X, C07C, C07D, C08G, C09BA, C09DA, C09XA52)

III· Vasodilators (C02DB, C02DD, C02DG, C04, C05)

IV· Beta blockers (C07)

V· Calcium channel blockers (C07F, C08, C09BB, C09DB)

VI· Renin-angiotensin system inhibitors (C09)

Table S2. Risk score definitions.

Risk score	Points if present
CHA₂DS₂VASc *	
Congestive heart failure or Left Ventricular Dysfunction	1
Hypertension	1
Age ≥ 65 years	1
Age ≥ 75 years	1
Diabetes mellitus	1
Stroke (ischemic stroke, transient ischemic disease or systemic embolism)	2
Vascular disease (myocardial infarction, peripheral arterial disease, or aortic plaque)	1
Sex category (female)	1
HAS-BLED **	
Hypertension	1
Abnormal renal function	1
Abnormal hepatic function	1
Stroke (ischemic stroke or transient ischemic attack)	1
Bleeding	1
Labile international normalized ratio ***	1
Elderly age (≥ 65 years)	1
Drugs (aspirin, clopidogrel, or non-steroidal anti-inflammatory drugs)	1
Alcohol intake	1

*Reflects stroke risk in atrial fibrillation patients not in anticoagulant therapy (Lip GYH, Nieuwlaat R, Pisters R, Lane DA, Crijns HJGM. Refining clinical risk stratification for predicting stroke and thromboembolism in atrial fibrillation using a novel risk factor-based approach: the euro heart survey on atrial fibrillation. *Chest* 2010;137:263-72.

**Reflects bleeding risk in atrial fibrillation patients undergoing anticoagulant therapy (Pisters R, Lane DA, Nieuwlaat R, de Vos CB, Crijns HJGM, Lip GYH. A novel user-friendly score (HAS-BLED) to assess 1-year risk of major bleeding in patients with atrial fibrillation: the Euro Heart Survey. *Chest* 2010;138:1093-100.

***Not included due to unavailable information