

Supplemental Material

Table S1. Definitions of the comorbidities.

	ICD-10	ICPC-2	Reimbursement code	ATC code
Hypertension	I10-I15	K85, K86, K87	205	C03A, C03B, C03DB, C03EA, C07A, C08CA, C08D, C09
Dyslipidemia	E78	T93	206	C10
History of heart failure	I50, I11.0, I13.0, I13.2	K77	201	
Diabetes	E10-E14	T89, T90	103, 215	A10
Previous stroke	I63, I64, I69.3- I69.8	K90		
Vascular disease	I20-I25, I65-I66, I67.2, I70	K74, K75, K76, K91, K92	206	
Bleeding history	D50.0, D62, D68.3, I60-I62, I69.0-I69.2, I85.0, I86.4, J94.2, K22.1, K22.3, K22.6, K25.0, K25.2, K25.4, K25.6, K26.0, K26.2, K26.4, K26.6, K27.0, K27.2, K27.4, K27.6, K28.0, K28.2, K28.4, K28.6,			

	K29.0, K62.5, K63.1, K63.3, K92.0-K92.2, N02, R04, R31, R58, S06.2-S06.6, S06.8			
Alcohol abuse	F10			
Dementia	F00-F03, G30			

ATC, anatomic therapeutic chemical; ICD-10, International Classification of Diseases, Tenth Revision; ICPC-2, International Classification of Primary Care, Second Edition.

Table S2. Sensitivity analysis of the incidence of DOAC non-persistence with 105- and 135-day gaps in DOAC purchases as the non-persistence event

Non-persistence definition	Clinical condition	Events	Proportion of patients with events	Patient-years	Incidence (per patient-year)	Unadjusted IRR	Adjusted IRR
105-day gap without DOAC purchases	No MHC	18 964	34.2%	60 561	0.313 (0.309-0.318)	(Reference)	(Reference)
	Any MHC	4 324	35.9%	12 253	0.353 (0.343-0.364)	1.127 (1.090-1.165)	1.140 (1.101-1.179)
	Depression	1 167	36.1%	3 163	0.369 (0.348-0.391)	1.178 (1.111-1.250)	1.219 (1.147-1.296)
	Bipolar disorder	125	41.4%	267	0.468 (0.393-0.558)	1.495 (1.254-1.782)	1.499 (1.254-1.790)
	Anxiety disorder	480	35.8%	1 336	0.359 (0.328-0.393)	1.147 (1.048-1.256)	1.222 (1.115-1.339)
	Schizophrenia	103	30.0%	301	0.343 (0.282-0.416)	1.094 (0.901-1.328)	1.164 (0.958-1.414)
135-day gap without DOAC purchases	No MHC	9 587	17.3%	71 968	0.133 (0.131-0.136)	(Reference)	(Reference)
	Any MHC	2 269	18.8%	14 846	0.153 (0.147-0.159)	1.147 (1.096-1.201)	1.175 (1.121-1.233)
	Depression	1 408	19.2%	3 830	0.162 (0.150-0.175)	1.215 (1.121-1.318)	1.323 (1.216-1.439)
	Bipolar disorder	73	24.2%	345	0.212 (0.168-0.266)	1.590 (1.263-2.002)	1.731 (1.370-2.186)
	Anxiety disorder	237	17.7%	1 623	0.146 (0.129-0.166)	1.096 (0.964-1.247)	1.262 (1.108-1.438)
	Schizophrenia	59	17.2%	345	0.171 (0.133-0.221)	1.285 (0.994-1.659)	1.537 (1.187-1.989)

IRR, incidence rate ratio; MHC, mental health condition. 95% confidence intervals in parenthesis. Adjusted IRRs estimated by Poisson regression.

Table S3. Sensitivity analysis of the incidence of DOAC non-persistence in patients with only a single MHC, more than one MHC and any diagnosed MHC.

Clinical condition	Patients (n)	Events (n)	Proportion of patients with events	Patient-years	Incidence (per patient-year)	Unadjusted IRR	Adjusted IRR
No MHC	55 454	12 039	21.7%	68 872	0.175 (0.172-0.178)	(Reference)	(Reference)
Any diagnosed MHC	4 367	1 049	24.0%	4 900	0.214 (0.202-0.227)	1.225(1.150-1.305)	1.297 (1.215-1.385)
Only depression	2 496	616	24.7%	2 814	0.219 (0.202-0.237)	1.252 (1.155-1.358)	1.293 (1.189-1.405)
Only bipolar disorder	130	38	29.2%	147	0.258 (0.188-0.354)	1.474 (1.072-2.027)	1.494 (1.084-2.060)
Only anxiety disorder	697	141	20.2%	826	0.171 (0.145-0.201)	0.976 (0.827-1.153)	1.052 (0.892-1.245)
Only schizophrenia	260	55	21.2%	256	0.215 (0.165-0.280)	1.228 (0.943-1.601)	1.392 (1.066-1.817)
More than 1 MHC	784	199	25.4%	856	0.232 (0.202-0.267)	1.329 (1.156-1.529)	1.535 (1.332-1.770)

IRR, incidence rate ratio; MHC, mental health condition. 95% confidence intervals in parenthesis. Adjusted IRRs estimated by Poisson regression and adjusted for age, sex, calendar year, heart failure, hypertension, diabetes, prior stroke, vascular disease, prior bleeding, alcohol abuse, renal failure, liver cirrhosis or failure, dementia, income, DOAC dosage and polypharmacy.

Figure S1. Flow-chart of the patient selection process.

