

**S5 Table.** Results of sensitivity analyses on primary effectiveness outcome

Outcome	Model	Oral anticoagulant	Median days of follow-up (min-max)	No. of events	Incidence rate (per 100 person years)	Hazard ratio (95% confidence interval)		
						Crude	Partially adjusted	Fully adjusted
Ischemic stroke, transient ischemic attack or systemic embolism	rWTD 50 <sup>th</sup> percentile interarrival density <sup>a</sup>	Warfarin	114 (1-365)	85	3.34	1	1	1
		Dabigatran	97 (1-365)	68	3.63	0.95	1.03 (0.74-1.43)	1.05 (0.74-1.49)
		Rivaroxaban	89 (1-365)	99	4.73	1.18	1.13 (0.84-1.52)	1.14 (0.84-1.56)
		Apixaban	54 (1-365)	108	6.23	1.21	1.12 (0.82-1.52)	1.04 (0.75-1.44)
	rWTD 60 <sup>th</sup> percentile interarrival density <sup>a</sup>	Warfarin	138 (1-365)	93	3.15	1	1	1
		Dabigatran	118 (1-365)	74	3.21	0.93	1.01 (0.74-1.38)	1.04 (0.74-1.44)
		Rivaroxaban	96 (1-365)	109	4.24	1.17	1.13 (0.85-1.50)	1.16 (0.86-1.56)
		Apixaban	63 (1-365)	114	5.39	1.13	1.03 (0.77-1.39)	0.98 (0.71-1.34)
	rWTD 70 <sup>th</sup> percentile interarrival density <sup>a</sup>	Warfarin	169 (1-365)	102	3.02	1	1	1
		Dabigatran	143 (1-365)	78	2.81	0.88	0.97 (0.72-1.31)	0.99 (0.72-1.35)
		Rivaroxaban	112 (1-365)	119	3.71	1.12	1.11 (0.84-1.45)	1.11 (0.84-1.48)
		Apixaban	76 (1-365)	133	4.90	1.15	1.07 (0.81-1.41)	1.01 (0.75-1.35)
	rWTD 80 <sup>th</sup> percentile interarrival density <sup>a</sup>	Warfarin	204 (1-365)	110	2.91	1	1	1
		Dabigatran	171 (1-365)	85	2.67	0.88	0.99 (0.74-1.32)	1.02 (0.75-1.38)
		Rivaroxaban	138 (1-365)	131	3.57	1.14	1.14 (0.88-1.47)	1.15 (0.88-1.51)
		Apixaban	102 (1-365)	158	4.14	1.15	1.09 (0.84-1.41)	1.03 (0.78-1.36)
	rWTD 99 <sup>th</sup> percentile interarrival density <sup>a</sup>	Warfarin	322 (1-365)	137	3.00	1	1	1
		Dabigatran	288 (1-365)	95	2.38	0.77	0.88 (0.67-1.15)	0.93 (0.70-1.22)
		Rivaroxaban	205 (1-365)	157	3.48	1.08	1.08 (0.86-1.37)	1.13 (0.88-1.44)
		Apixaban	203 (1-365)	206	3.47	1.06	1.01 (0.81-1.28)	1.00 (0.78-1.27)
	Fixed daily dose model <sup>b</sup>	Warfarin	167 (1-365)	100	2.93	1	1	1
		Dabigatran	215 (1-365)	86	2.40	0.86	0.97 (0.72-1.30)	1.02 (0.75-1.39)
		Rivaroxaban	223 (1-365)	173	3.66	1.32	1.27 (0.99-1.63)	1.33 (1.02-1.72)
		Apixaban	174 (1-365)	193	3.53	1.20	1.11 (0.86-1.44)	1.09 (0.83-1.42)
	Only main diagnosis events <sup>c</sup>	Warfarin	250 (1-365)	98	2.35	1	1	1
		Dabigatran	212 (1-365)	61	1.71	0.70	0.83 (0.60-1.15)	0.81 (0.57-1.14)
		Rivaroxaban	165 (1-365)	95	2.35	0.93	0.95 (0.71-1.26)	0.92 (0.68-1.24)
		Apixaban	151 (1-365)	125	2.46	0.93	0.89 (0.67-1.18)	0.80 (0.60-1.08)

<sup>a</sup> Prescription length estimated in reverse parametric waiting time distribution (rWTD) model with 50<sup>th</sup>, 60<sup>th</sup>, 70<sup>th</sup>, 80<sup>th</sup> or 99<sup>th</sup> percentile interarrival density adjusted for sex, age and number of pills. No gap in supply allowed.

<sup>b</sup> Prescription length based on recommended dose for DOACs and an estimate of mean daily dose of warfarin used by the study population. Up to 30-day gap in supply allowed.

<sup>c</sup> Only events registered as primary diagnosis included in outcome (excluding events registered as secondary diagnosis or underlying cause of death). Otherwise same model as main analyses.