Supplemental Material:

Non-Persistence to Oral Anticoagulation Treatment in Non-Valvular Atrial Fibrillation Patients in the United States

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Supplemental Table 1. Proportion of NVAF Patients with Time-varying Event

	Warfarin Cohort (N = 317,337)		Apixaban Cohort (N = 363,823)		Dabigatran Cohort (N = 57,121)		Rivaroxaban Cohort (N = 282,831)	
	N	%	N	%	N	%	N	%
Stroke/Systemic Embolism (SE) (primary discharge)	12,955	4.1%	7,673	2.1%	1,938	3.4%	7,920	2.8%
Hemorrhagic Stroke	1,932	0.6%	910	0.3%	191	0.3%	987	0.3%
Ischemic Stroke	10,254	3.2%	6,458	1.8%	1,629	2.9%	6,544	2.3%
SE	847	0.3%	353	0.1%	124	0.2%	444	0.2%
Major Bleeding (primary discharge)	32,094	10.1%	17,146	4.7%	3,916	6.9%	19,882	7.0%
Gastrointestinal (GI) Bleeding	15,474	4.9%	8,758	2.4%	2,181	3.8%	10,729	3.8%
Intracranial Hemorrhage (ICH)	5,711	1.8%	2,936	0.8%	598	1.0%	2,734	1.0%
Other sites	12,575	4.0%	6,262	1.7%	1,373	2.4%	7,622	2.7%
Any Inpatient Visit with Atrial Fibrillation	34,280	10.8%	34,001	9.3%	6,942	12.2%	31,333	11.1%
New Acute Renal Failure	66,898	21.1%	44,977	12.4%	8,817	15.4%	40,286	14.2%
New Chronic Renal Failure	38,731	12.2%	24,904	6.8%	5,651	9.9%	24,134	8.5%
New Cancer	24,941	7.9%	15,679	4.3%	4,144	7.3%	17,293	6.1%
Cardioversions and Catheter Ablations	13,547	4.3%	14,851	4.1%	3,263	5.7%	14,503	5.1%

Supplemental Table 2. Descriptive Outcomes for Sensitivity Analyses

	Warfarin Cohort (N = 317,337)		Apixaban Cohort (N = 363,823)		Dabigatran Cohort (N = 57,121)		Rivaroxaban Cohort (N = 282,831)	
	N/Mean	%/SD	N/Mean	%/SD	N/Mean	%/SD	N/Mean	%/SD
Sensitivity Analysis Using 12 Month Follow-up								
Non-Persistent Patients	153,408	48.3%	139,732	38.4%	32,087	56.2%	137,408	48.6%
Type of Change in Therapy								
Discontinued	133,949	42.2%	130,918	36.0%	27,834	48.7%	125,857	44.5%
Switched	19,459	6.1%	8,814	2.4%	4,253	7.5%	11,551	4.1%
Sensitivity Analysis Using 30-Day Gap								
Non-Persistent Patients	253,248	79.8%	226,768	62.3%	46,646	81.7%	205,060	72.5%
Type of Change in Therapy								
Discontinued	233,178	73.5%	217,442	59.8%	42,126	73.7%	192,483	68.1%
Time-to-Discontinuation (days)	230.0	266.2	193.4	220.0	209.3	271.4	206.6	255.6
Switched	20,070	6.3%	9,326	2.6%	4,520	7.9%	12,577	4.4%
Time-to-Switch (days)	155.3	238.0	132.7	191.1	164.2	258.0	167.5	249.4
Sensitivity Analysis Including INR Testing								
Non-Persistent Patients	207,565	65.4%	172,574	47.4%	41,108	72.0%	171,799	60.7%
Type of Change in Therapy								
Discontinued	180,924	57.0%	162,455	44.7%	35,869	62.8%	157,717	55.8%
Time-to-Discontinuation (days)	311	333.1	214	240.2	250	317.7	223	275.5
Switched	26,641	8.4%	10,119	2.8%	5,239	9.2%	14,082	5.0%
Time-to-Switch (days)	217.8	304.4	154.1	213.6	207.5	299.6	197.9	279.4

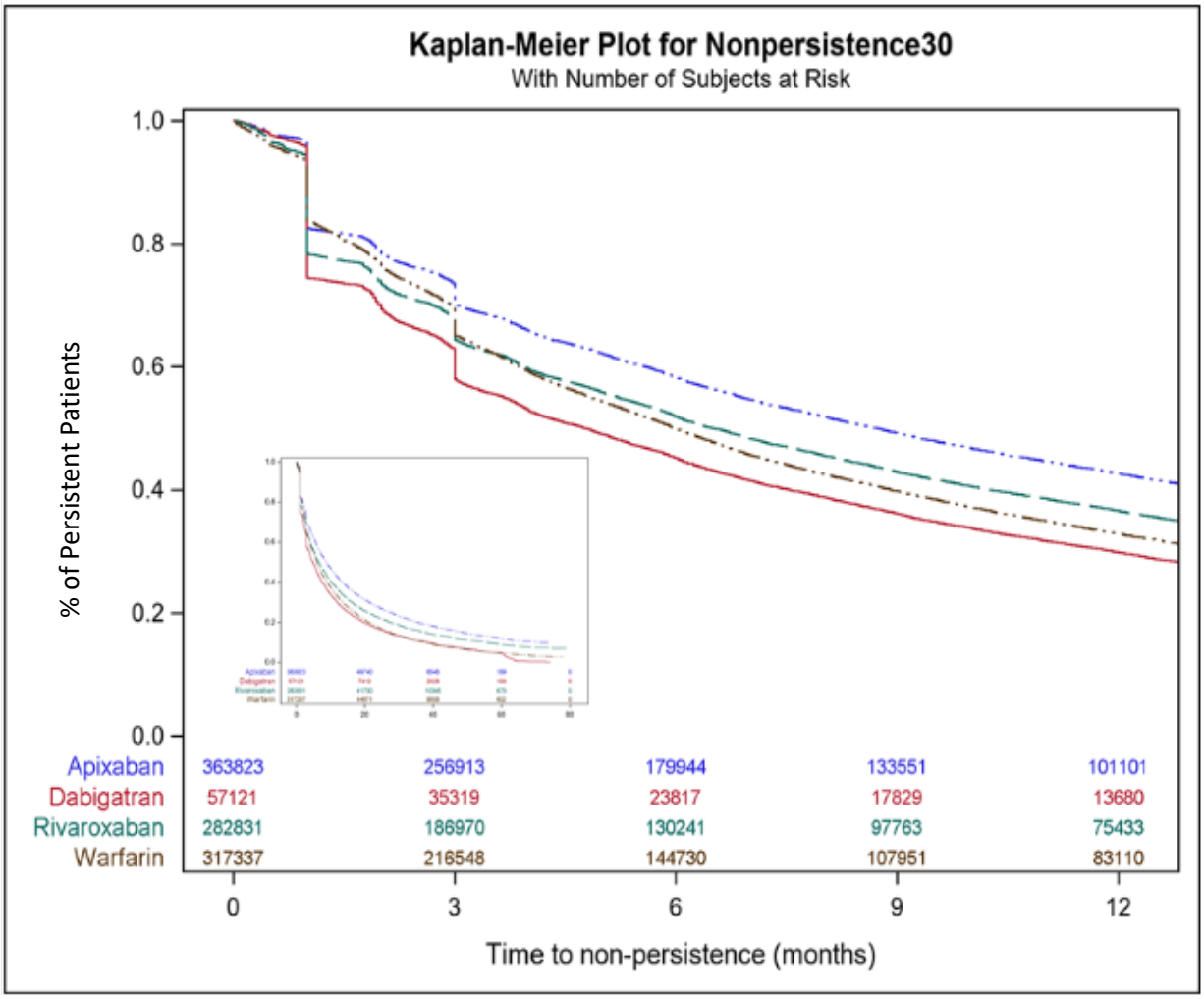
INR: International Normalized Ratio; OAC: Oral Anticoagulant; SD: Standard Deviation

Supplemental Table 3. Adjusted Hazard Ratios of Non-persistence for Sensitivity Analyses

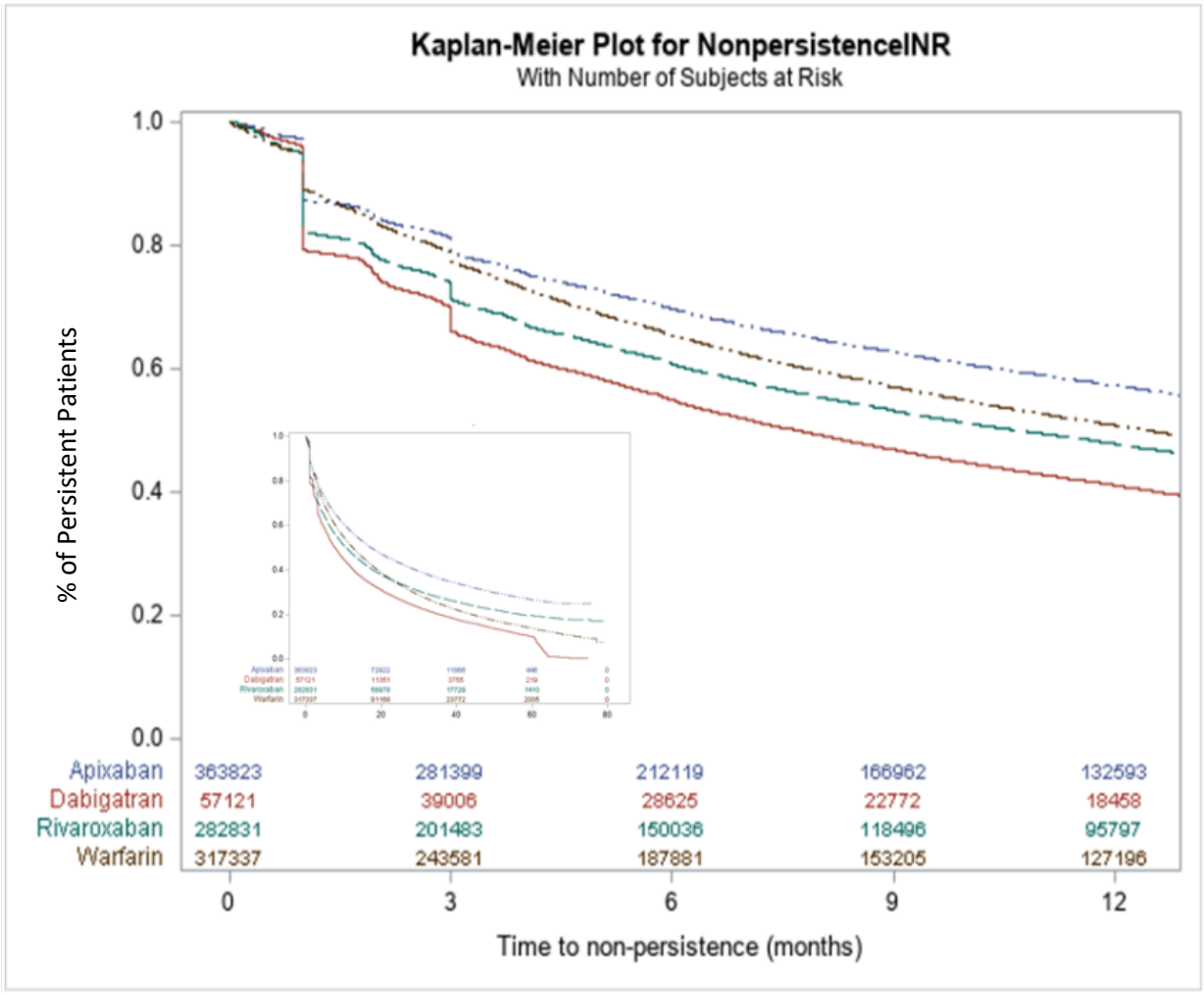
	Sensitivity Analysis Using 12 Month Follow-up		Sensitivity Analysis Using 30 Day Gap		Sensitivity Analysis Including INR Testing	
	Hazard Ratio* (95% Confidence Interval)	p-value	Hazard Ratio* (95% Confidence Interval)	p-value	Hazard Ratio* (95% Confidence Interval)	p-value
Cohort						
Warfarin	Ref		Ref		Ref	
Apixaban	0.76 (0.76-0.77)	<.001	0.76 (0.75-0.76)	<.001	0.78 (0.77-0.78)	<.001
Dabigatran	1.24 (1.22-1.25)	<.001	1.09 (1.08-1.10)	<.001	1.26 (1.25-1.27)	<.001
Rivaroxaban	1.03 (1.02-1.04)	<.001	0.90 (0.90-0.91)	<.001	1.02 (1.01-1.03)	<.001
Rivaroxaban	Ref		Ref			
Apixaban	0.74 (0.74-0.75)	<.001	0.84 (0.83-0.84)	<.001		
Dabigatran	1.20 (1.19-1.22)	<.001	1.21 (1.20-1.22)	<.001		
Dabigatran	Ref		Ref			
Apixaban	0.62 (0.61-0.63)	<.001	0.70 (0.69-0.70)	<.001		

*Models adjusted for age, sex, region, AF index year, Deyo-CCI, bleeding history, history of congestive heart failure, diabetes mellitus, hypertension, renal disease, liver disease, cancer, myocardial infarction, cardioversion and catheter ablations, dyspepsia or stomach discomfort, non-stroke/SE peripheral vascular disease, stroke/SE, transient ischemic attack, anemia and coagulation defects, alcoholism, peripheral artery disease, coronary artery disease, and baseline medication use.

Supplemental Figure 1. Sensitivity Analysis Using 30 Day Gap for Cumulative Incidence of Non-persistence of NVAF Patients



Supplemental Figure 2. Sensitivity analysis including INR claims for Cumulative Incidence of Non-persistence Among NVAF Patients*



*Warfarin non-persistence was redefined with the inclusion of INR records to extend warfarin treatment episode.