

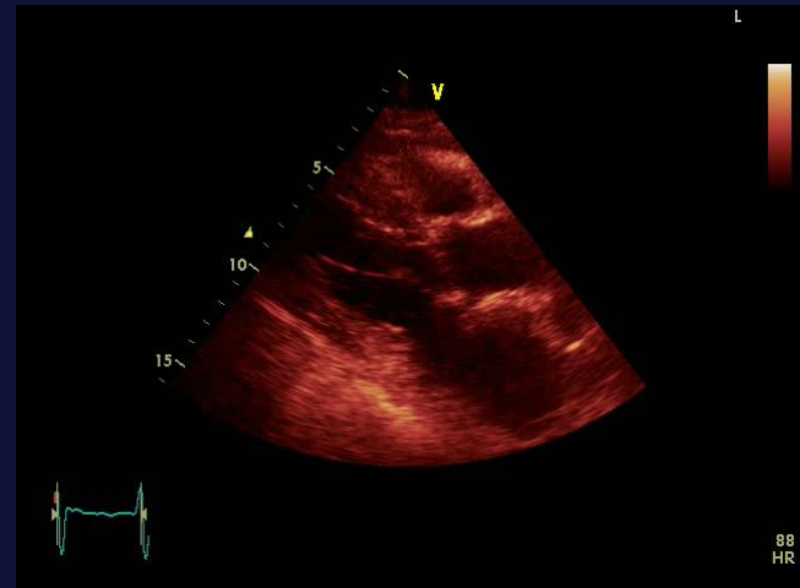
Risk Stratification

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Disclosures:

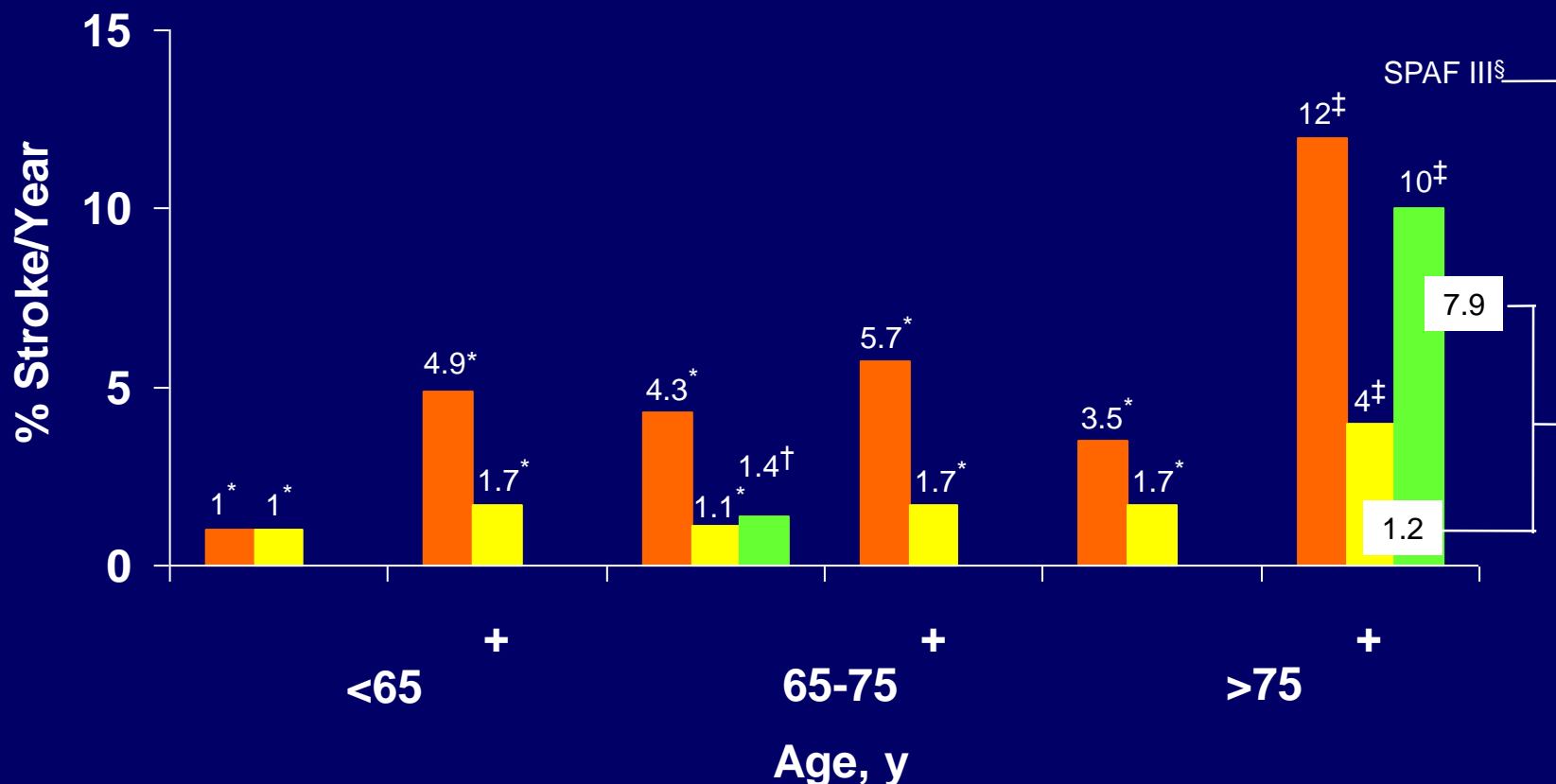
Consultant : ARYx Therapeutics, Astra Zeneca,
BMS, Boehringer Ingelheim, Daiichi Sankyo, Gilead,
Medtronic, Merck, Otho-McNeil Janssen, Pfizer,
Portola, Sanofi–Aventis, St Jude Medical.
Johnson & Johnson , Coherex .

Grants: ARYx Therapeutics, AstraZeneca,
Boehringer Ingelheim, Daiichi Sankyo, Portola



Expected Stroke Rates With Placebo, Warfarin, and Aspirin in Patients With Atrial Fibrillation

■ Placebo ■ Warfarin ■ Aspirin



Plus sign indicates \geq risk factor (Hx of hypertension, Hx of diabetes, previous TIA or heart failure); * data from Atrial Fibrillation Investigators; † data from the SPAF Investigators; ‡ data from EAFT Study Group; § Data from SPAF III

Stroke Risk Stratification in AF

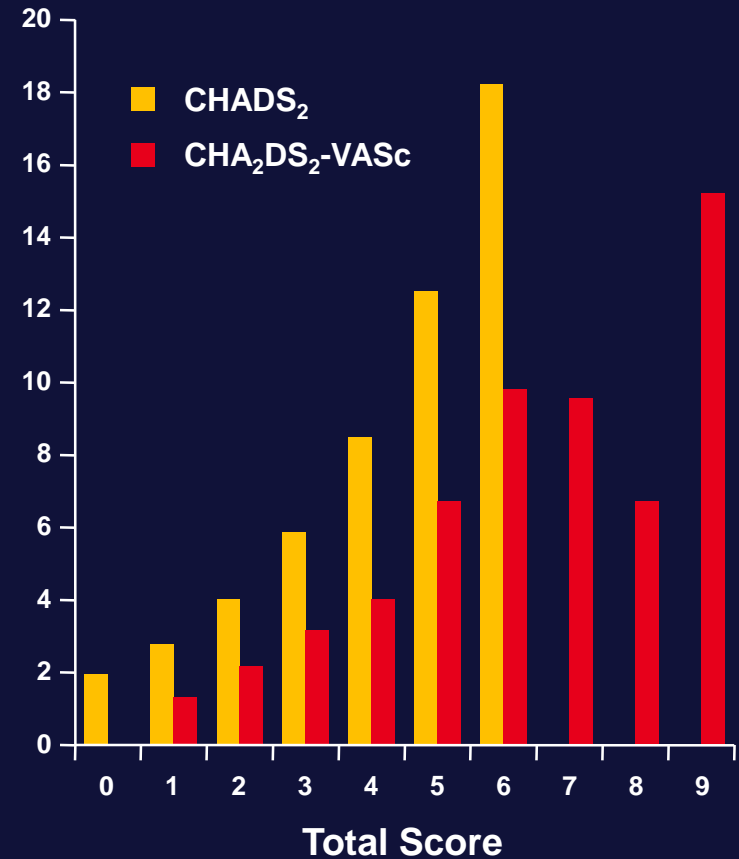
CHADS₂

Risk Factor	Score
Cardiac failure	1
HTN	1
Age ≥75 years	1
Diabetes	1
Stroke	2

CHA₂DS₂-VASc

Risk Factor	Score
Cardiac failure	1
HTN	1
Age ≥75 years	2
Diabetes	1
Stroke	2
Vascular disease (MI, peripheral arterial disease, aortic atherosclerosis)	1
Age 65-74 years	1
Sex category (female)	1

Annual Risk of Stroke (%)



HTN = hypertension; MI = myocardial infarction. Gage et al

Lip GY, et al. *Am J Med.* 2010;123(6):484-488. Camm AJ, et al. *Eur Heart J.* 2010;31;2369-2429.

Bleeding Risk Assessment by HAS-BLED Score

■ Quantitative bleeding risk score

Letter	Clinical characteristic ^a	Points awarded
H	Hypertension	1
A	Abnormal renal and liver function (1 point each)	1 or 2
S	Stroke	1
B	Bleeding	1
L	Labile INRs	1
E	Elderly (eg, age > 65 years)	1
D	Drugs or alcohol (1 point each)	1 or 2
		Maximum 9 points

SCORE

0 -Very low, 1- Low, 2- Moderate, >3- High

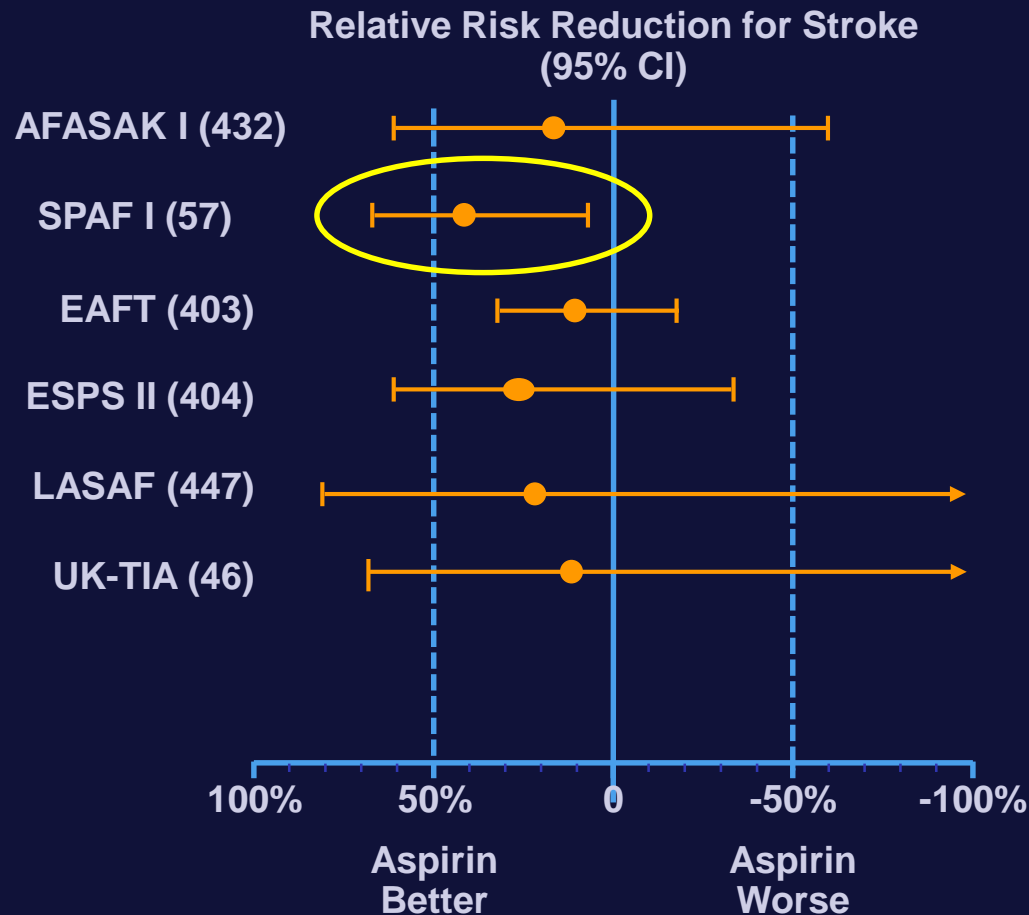
- ▶ HAS-BLED score allows clinicians to think of the correctable risk factors for bleeding.

For example:

- Uncontrolled blood pressure,
 - Concomitant use of
 - Aspirin/ NSAIDs,
 - Labile INRs, etc.
- ▶ In patients with a HAS-BLED score =3, caution and regular review are appropriate,
 - ▶ It should not be used to exclude patients from oral anticoagulant (OAC) therapy

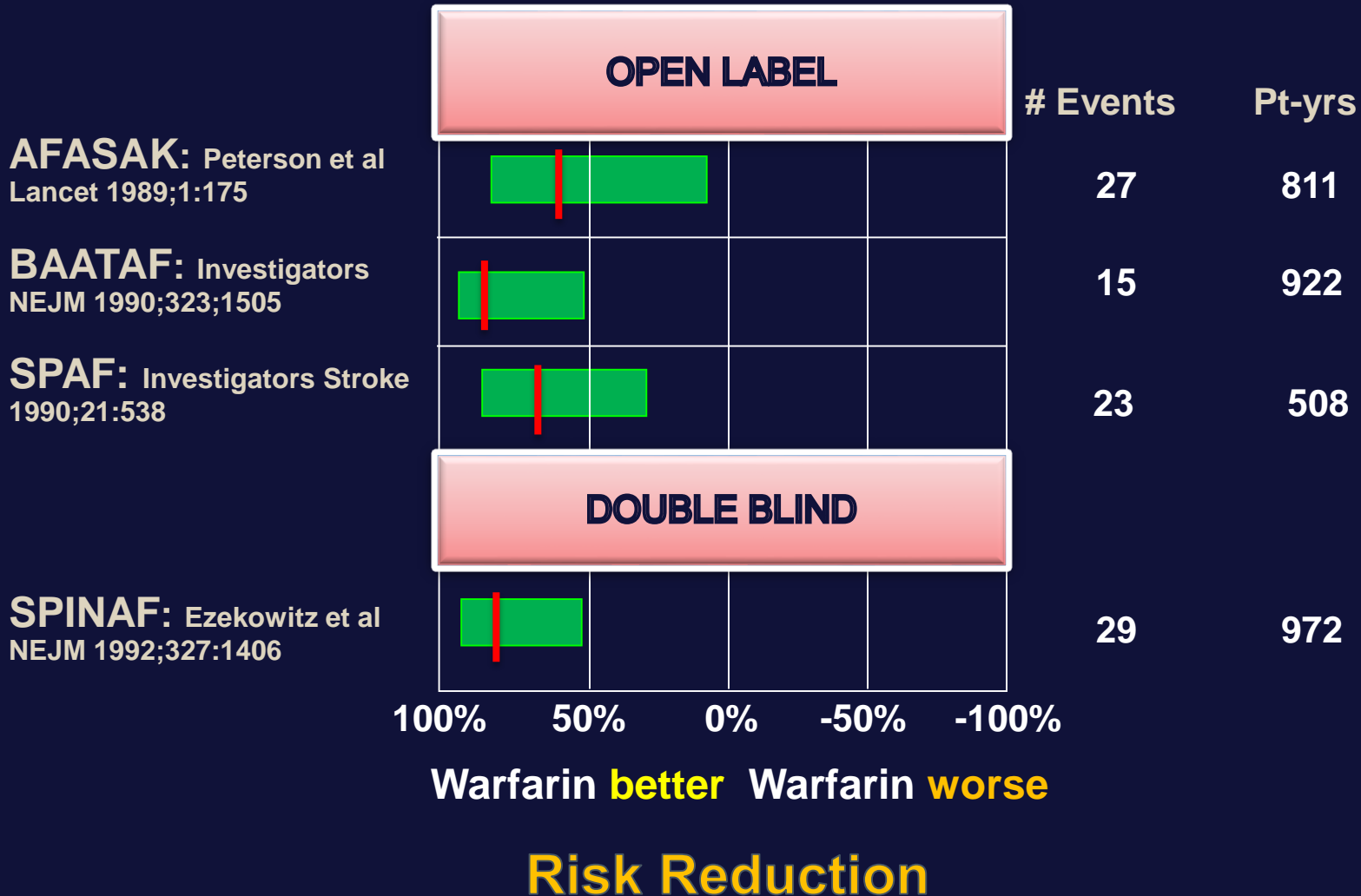
Aspirin Is Not Effective for Stroke Prevention in AF

Early Trials Comparing Aspirin with Placebo



WARFARIN ERA

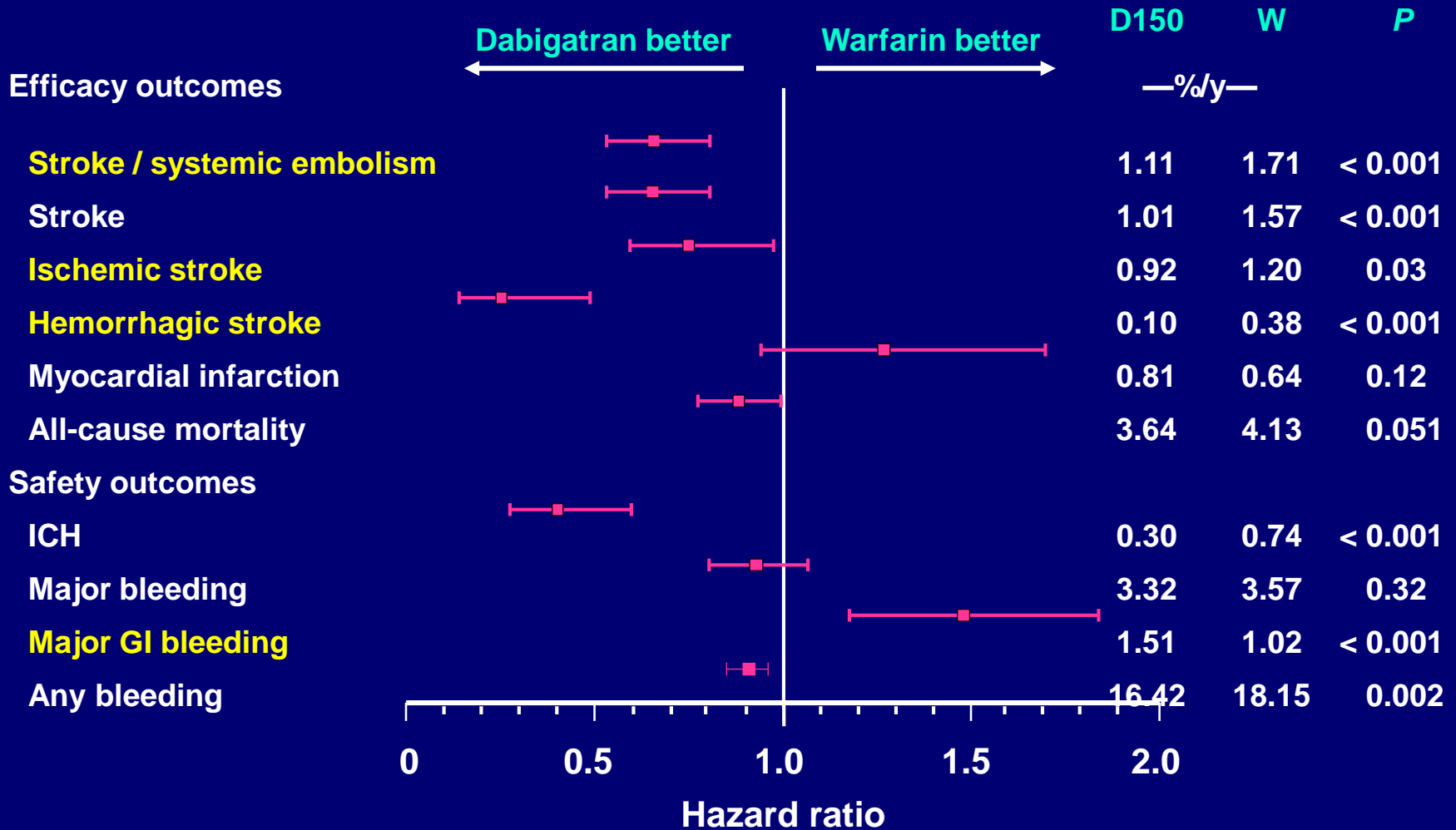
Completed Studies: Warfarin vs. Placebo



RE-LY: Dabigatran 150 mg Twice Daily

TTR 64%

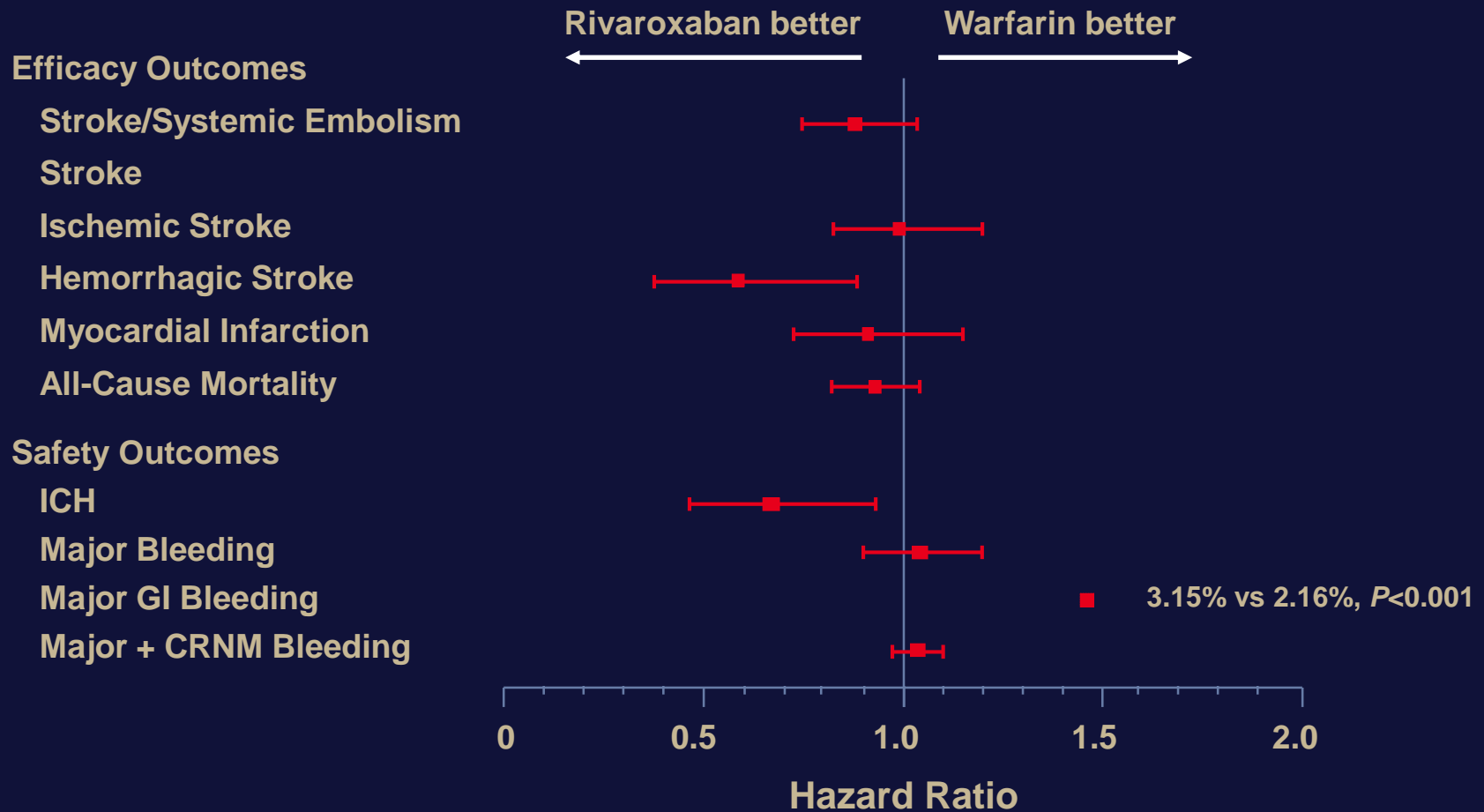
Mean CHADS₂ score = 2.1



Connolly , Ezekowitz Yusuf *N Engl J Med.* 2009;361:1139-1151.
 Connolly , Ezekowitz ,Yusuf *N Engl J Med.* 2010;363:1875-1876.

ROCKET AF: Rivaroxaban TTR 55%

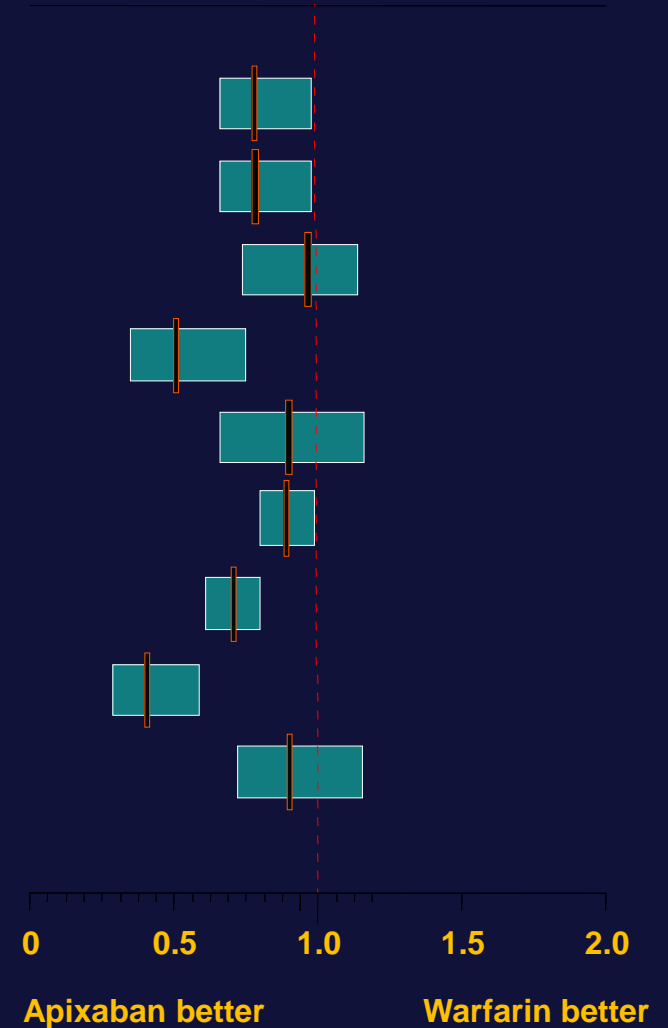
Mean CHADS₂ score = 3.5



Courtesy of MD Ezekowitz.
Mahaffey KW. Presented at AHA, November 2010.
Patel M et al. *N Engl J Med*. 2011;365:883-891.

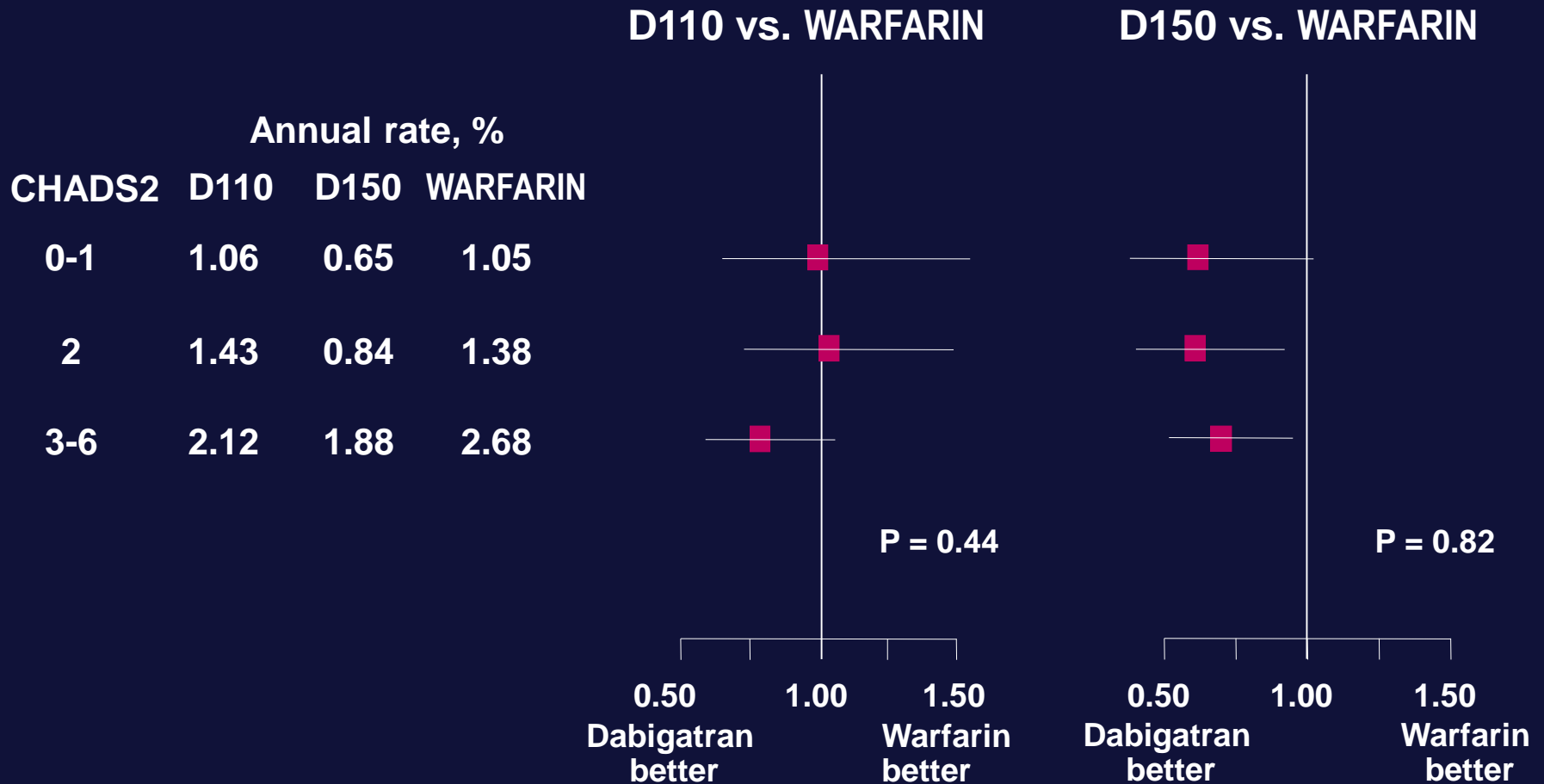
Apixaban vs Warfarin TTR 62%

Efficacy Outcomes	(Event Rate, %/year)	
	Apixaban	Warfarin
Stroke/Systemic Embolism	1.27	1.60
Stroke	1.19	1.51
Ischemic Stroke	.97	1.05
Hemorrhagic Stroke	.24	.47
MI	.53	.61
All-Cause Mortality	3.52	3.94
Safety Outcomes		
ISTH Major Bleeding	2.13	3.09
ICH	.33	.80
Major GI Bleeding	.76	.86

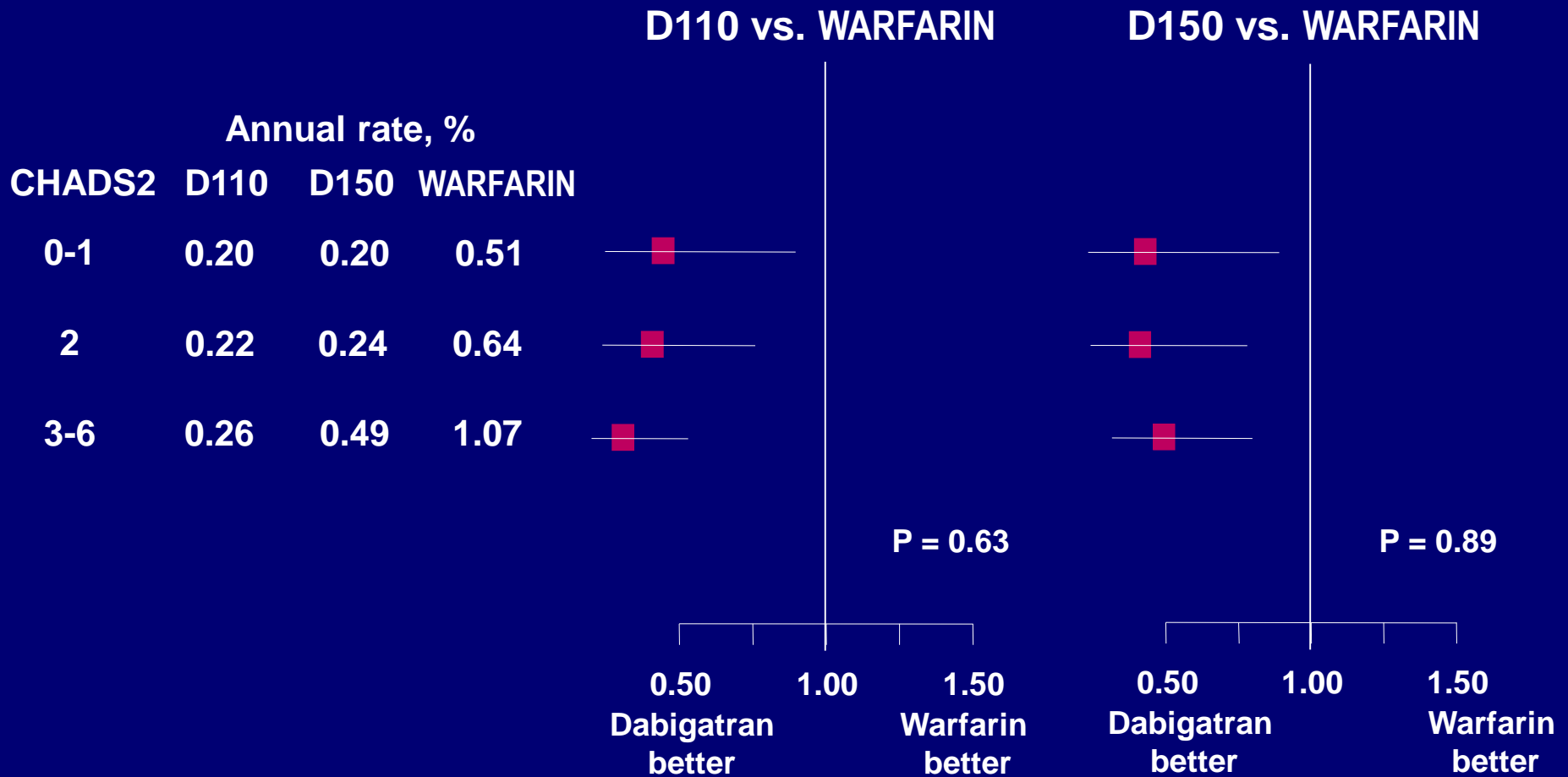


ISTH = International Society of Thrombosis and Haemostasis.
 Granger CB, et al. *N Engl J Med.* 2011;365(11):981-992.

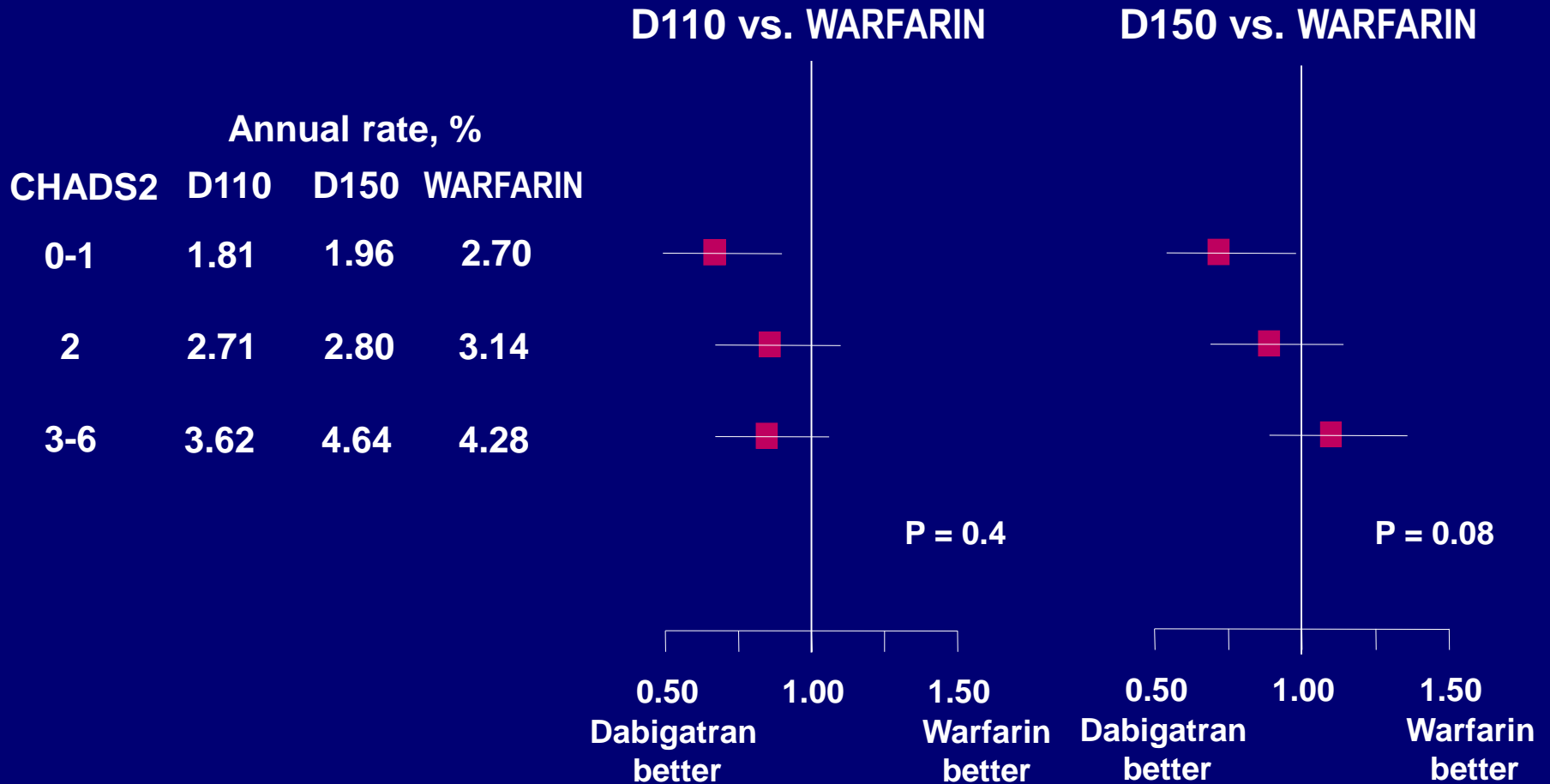
Stroke and Systemic Embolism (SE)



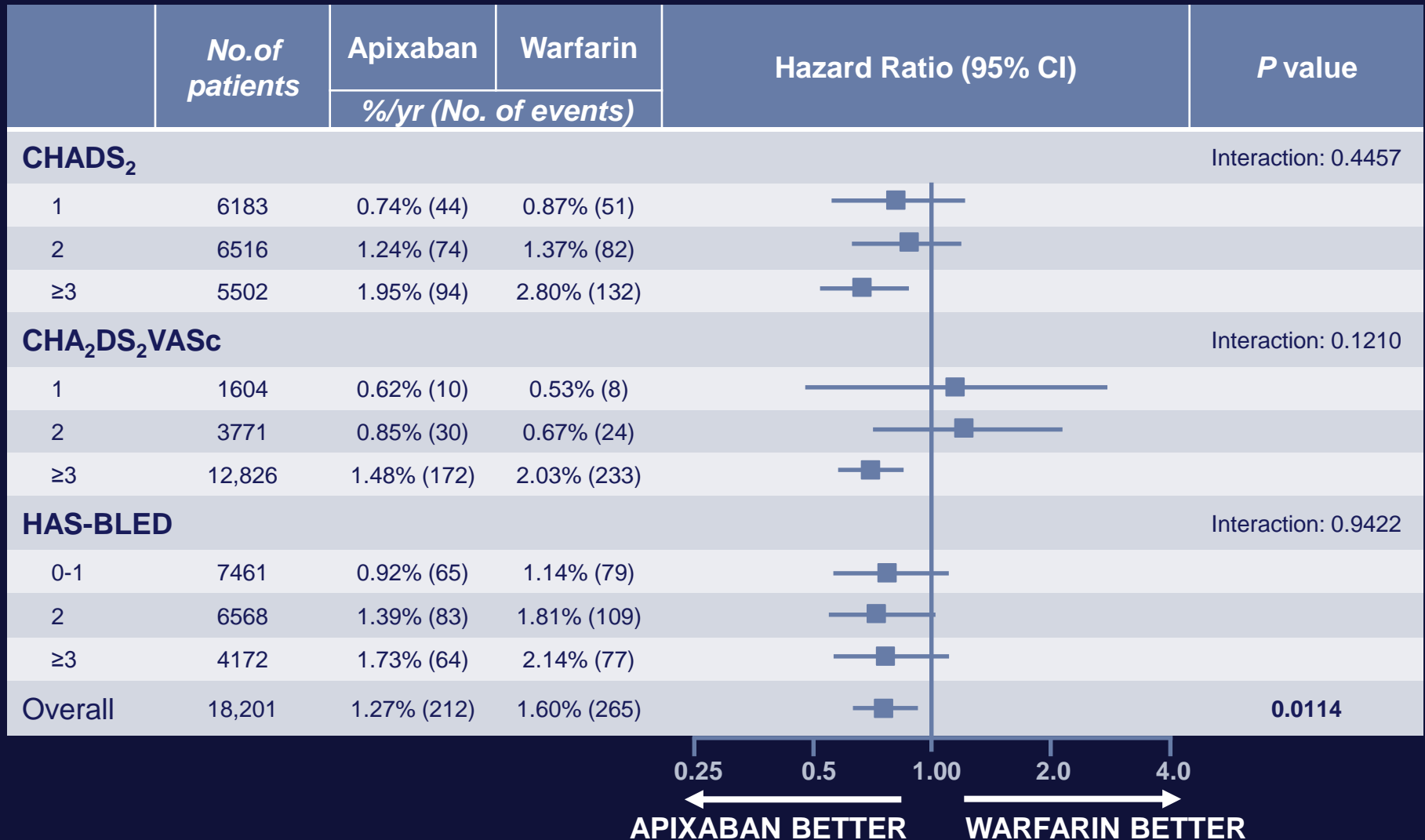
Intracranial bleeding



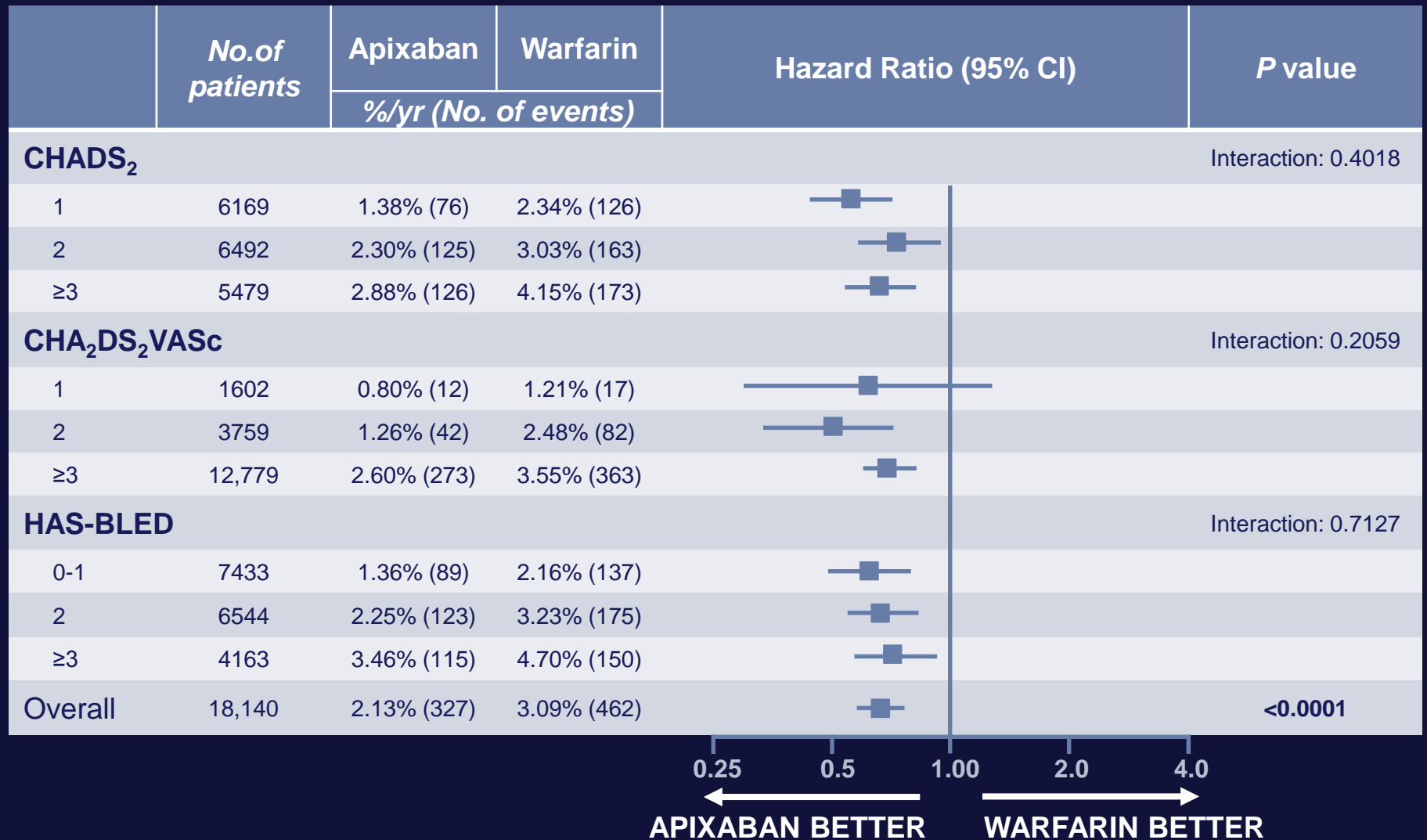
Major bleeding



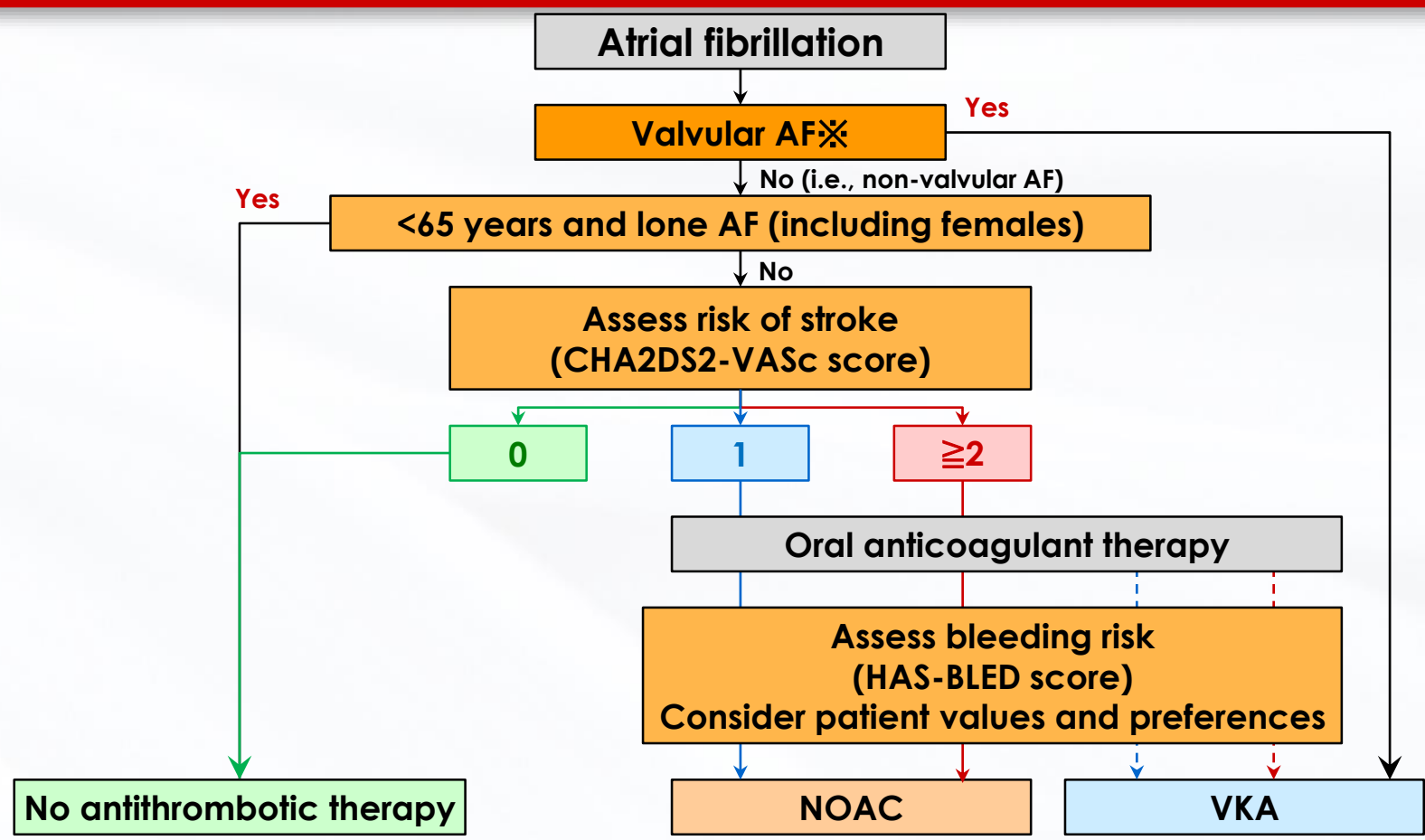
ARISTOTLE: Stroke or Systemic Embolism According to Baseline Risk Scores



ARISTOTLE: Major Bleeding According to Baseline Risk Scores



Choice of anticoagulant



Antiplatelet therapy with aspirin plus clopidogrel, or—less effectively—aspirin only, should be considered in patients who refuse any OAC, or cannot tolerate anticoagulants for reasons unrelated to bleeding. If there are contraindications to OAC or antiplatelet therapy, left atrial appendage occlusion, closure or excision may be considered.
Colour: CHA2DS2-VASc; green = 0, blue = 1, red ≥2. Line: solid = best option; dashed = alternative option.

Conclusion

- Risk Scores define absolute risk Stroke and bleeding
- Risk Scores define relative risk compared to Warfarin
- Risk Scores define threshold at and above which Anticoagulation is indicated