

Stroke Prevention in AF:

How will it change in the next 5 years?

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Disclosures

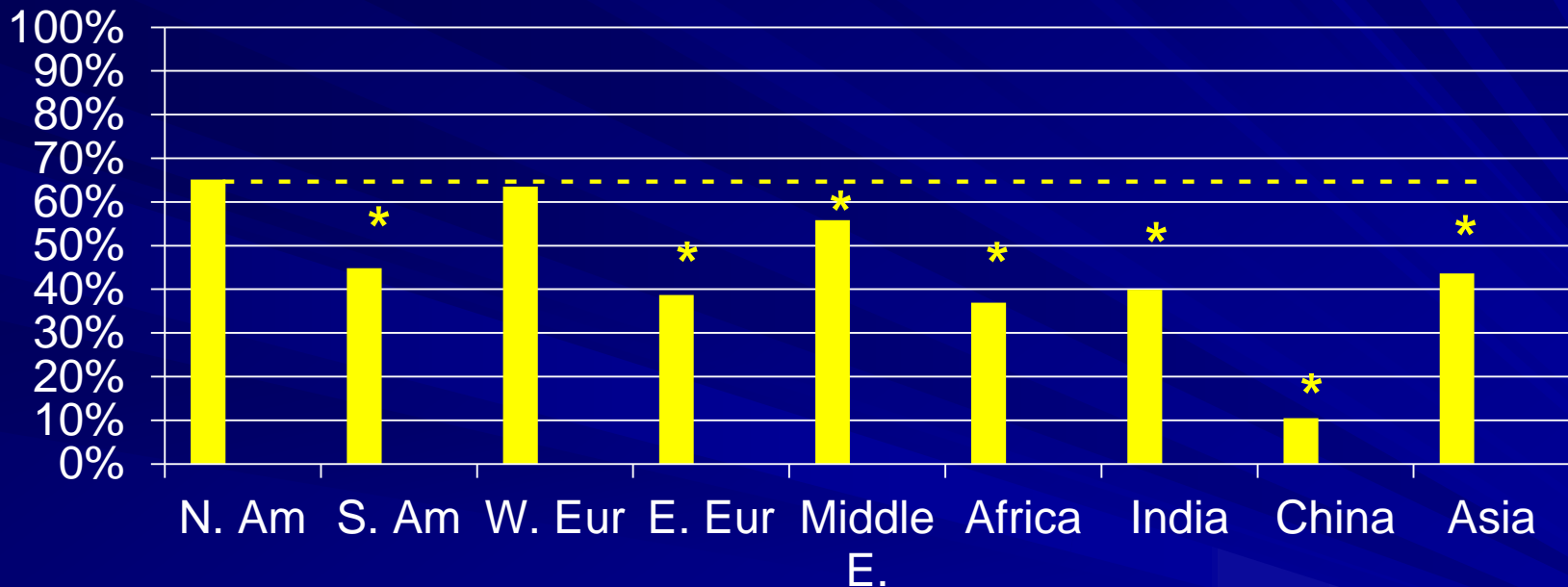
- Research Grants and speaking fees
 - St. Jude Medical, Boston Scientific, Medtronic, Bristol-Meyers-Squibb, Pfizer, Boehringer-Ingelheim, Bayer, St. Jude Medical

**Better application of current
knowledge**

OAC Use: CHADS2 ≥ 2

RE-LY AF Registry: Circulation 2014

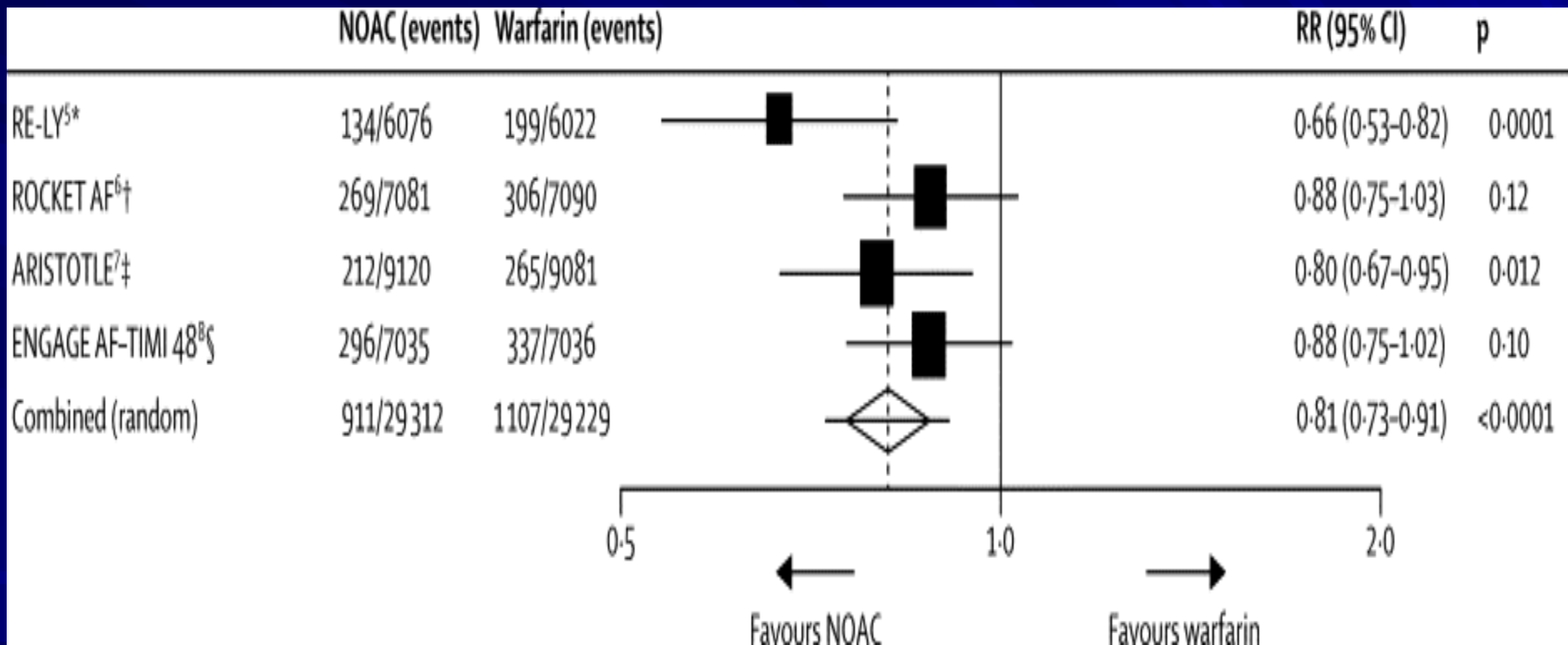
Patients with a Prior History of AF



■ OAC Use CHADS2 ≥ 2

* $P \leq 0.005$ vs. N. America

Stroke or systemic embolism in 4 randomized trials comparing DOACs with warfarin

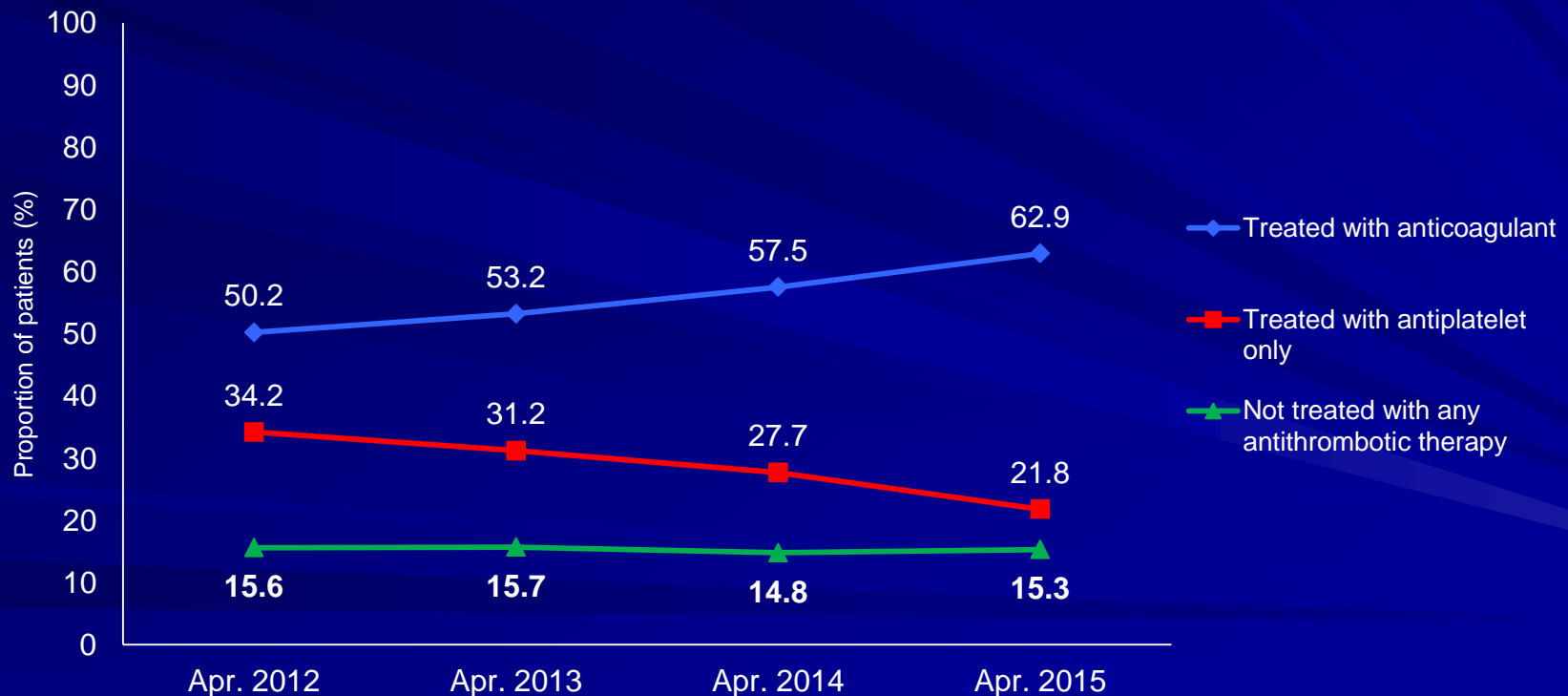


Data shown are for higher dosages of dabigatran (150mg twice daily) and edoxaban (60mg daily).

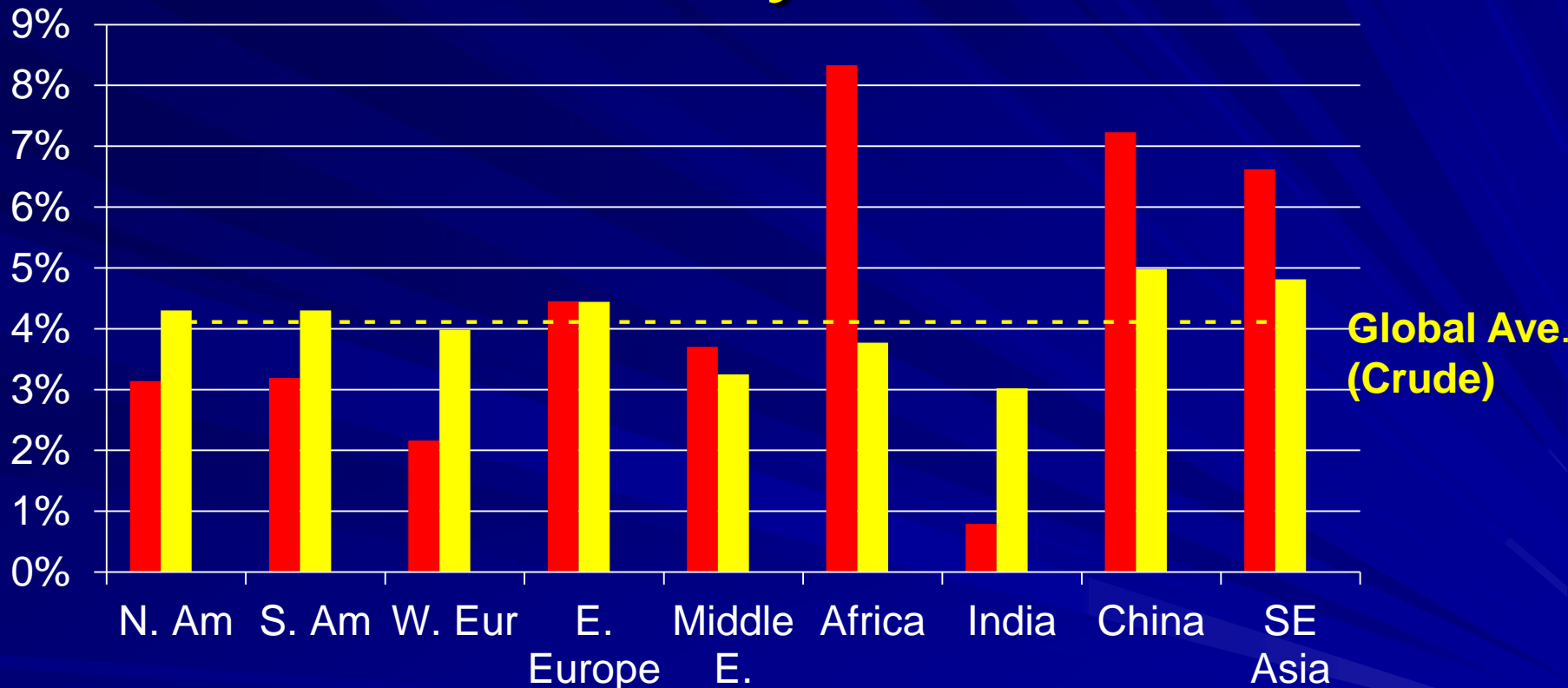
Ruff CT et al. *Lancet* 2013

UK Primary Care: Administrative Data

Changes in the anticoagulation management of NVAf patients with $\text{CHA}_2\text{DS}_2\text{-VASc} \geq 2$ between April 1st, 2012 and April 1st, 2015 in the UK



Stroke Rates in the RE-LY AF Cohort study: Lancet 2016



■ **Crude Stroke Rate**

■ **Adjusted Stroke Rate:** (for age, stroke/TIA, heart failure, hypertension, diabetes and VITAMIN K ANTAGONIST USE)

Factors which could drive further increase in OAC use

- Knowledge translation
- Clinical experience with NOACs
- Better understanding of patient preferences
- Availability of reversal agents
- New agents on market
- Evolution of price

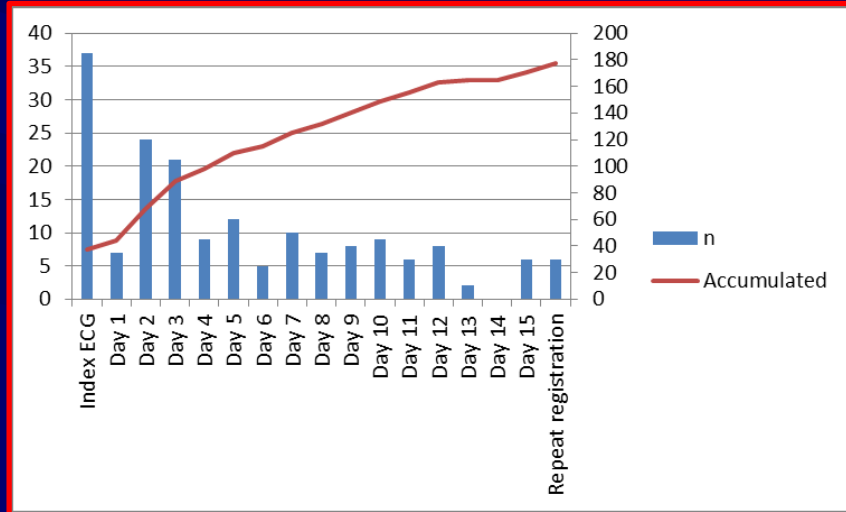
Searching for Atrial Fibrillation

Screening for AF



Population Screening

STROKE-STOP study:



- Population screening
- Sweden, age 75/76
- 7,173/13,331 participated
- Intermittent home ECG for 2 weeks
- 3% had previously unknown AF
- Previously known, but untreated AF in 2.1%



Europace
doi:10.1093/europace/euv083

CLINICAL RESEARCH

Cost-effectiveness of mass screening for untreated atrial fibrillation using intermittent ECG recording

Mattias Aronsson^{1*}, Emma Svennberg², Mårten Rosenqvist², Johan Engdahl³, Faris Al-Khalili^{2,4}, Leif Friberg², Viveka Frykman-Kull², and Lars-Åke Levin¹

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- 8 fewer strokes/1000 screened
- 12 QALYs / 1000 screened
- € 4313/QALY

PIAAF Pharmacy

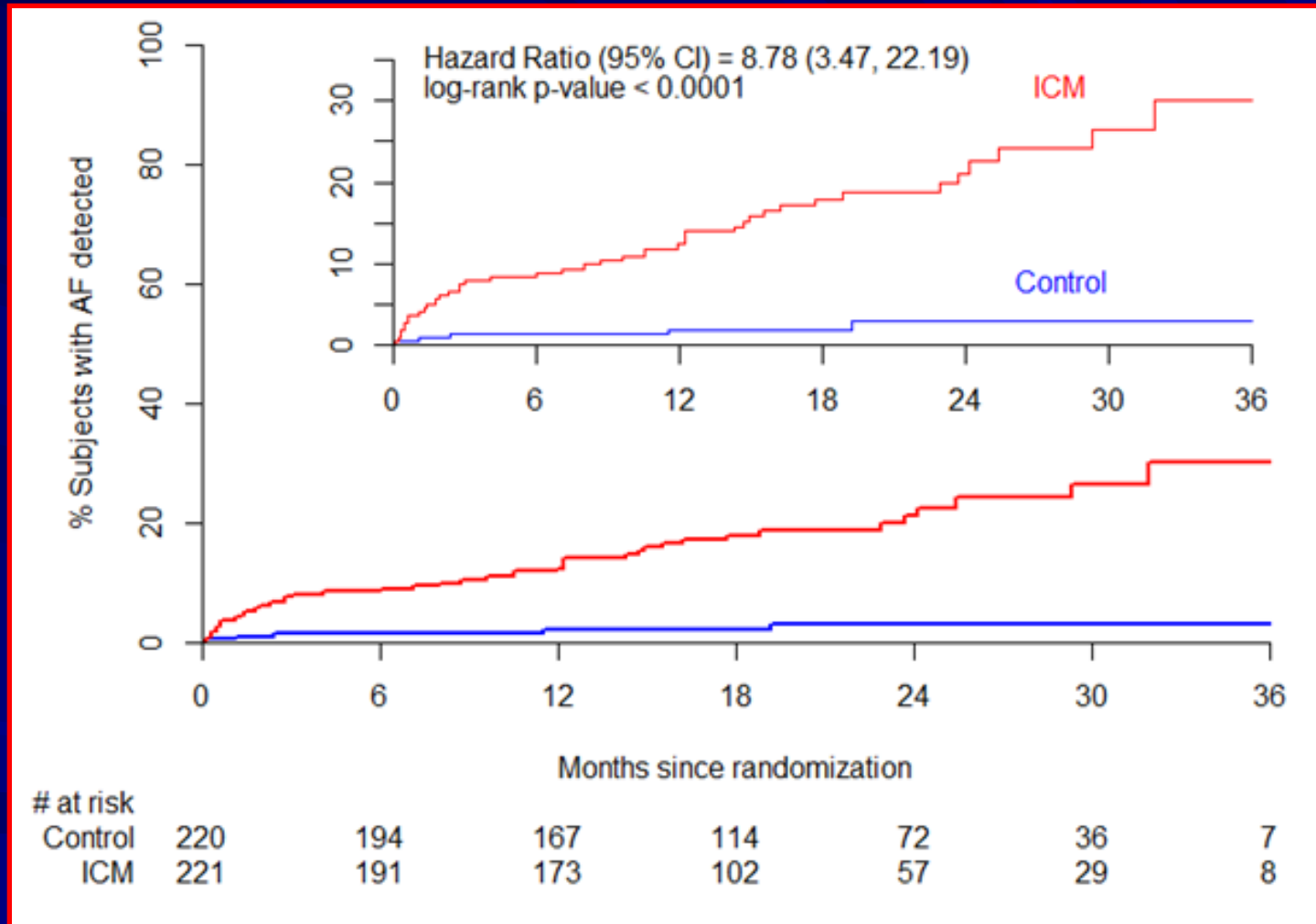


Age Groups (years)	Total N (%)	'Actionable' AF N (%)	No AF N (%)
65-74	620 (54.8)	11 (1.8)	609 (98.2)
75-85	422 (37.3)	9 (2.1)	413 (97.9)
>85	89 (7.9)	7 (7.9)	82 (92.1)

Approximately 50% of patients had a BP > 140/90 at screening
Only 50% of screen-positive patients receiving OAC 3 months later

CRYSTAL-AF Trial: AF at 3 years

R. Bernstein NEJM 2014



Rate of detection in ICM arm was 30.0% vs 3.0% in control arm

EMBRACE Trial: AF Detection at 90 Days

D. Gladstone NEJM 2014

	Repeat Holter (n=285)	30-day Monitor (n=287)	p-value	Absolute Detection Difference (95% CI)	NNS
Primary Outcome					
AF ≥30 seconds	3%	16%	<0.001	13% (9%-18%)	8
AF ≥30 sec (study monitors only)	2%	15%	<0.001	13% (9%-18%)	8
Secondary Outcomes					
AF ≥2.5 min	2%	10%	<0.001	8% (4%-12%)	13
Any AF	4%	20%	<0.001	16% (10%- 21%)	6

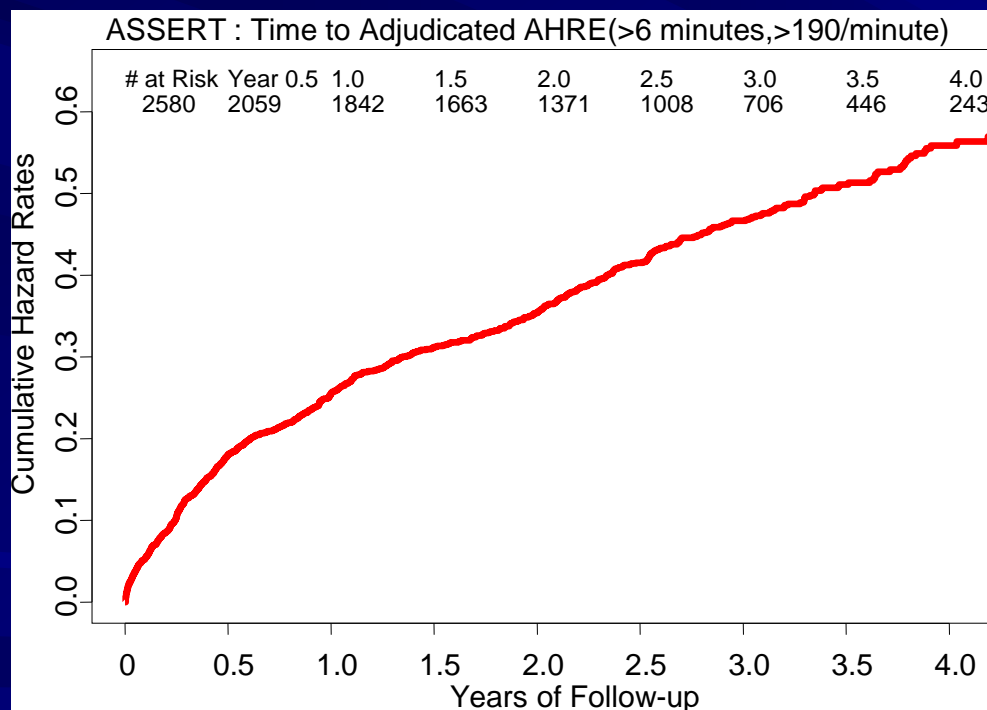
Embolic Stroke of Unknown Source: ESUS

- RCT of DOAC vs. ASA in patients with ESUS
- Exclude AF by 12-lead and a single 24 hour Holter, then just treat empirically
- Rivaroxaban: **NAVIGATE-ESUS**
 - R. Hart; S. Connolly
- Dabigatran: **RESPECT-ESUS**
 - C. Diener



ASSERT: NEJM 2012

SCAF > 6 min, >190 bpm



Patients with:

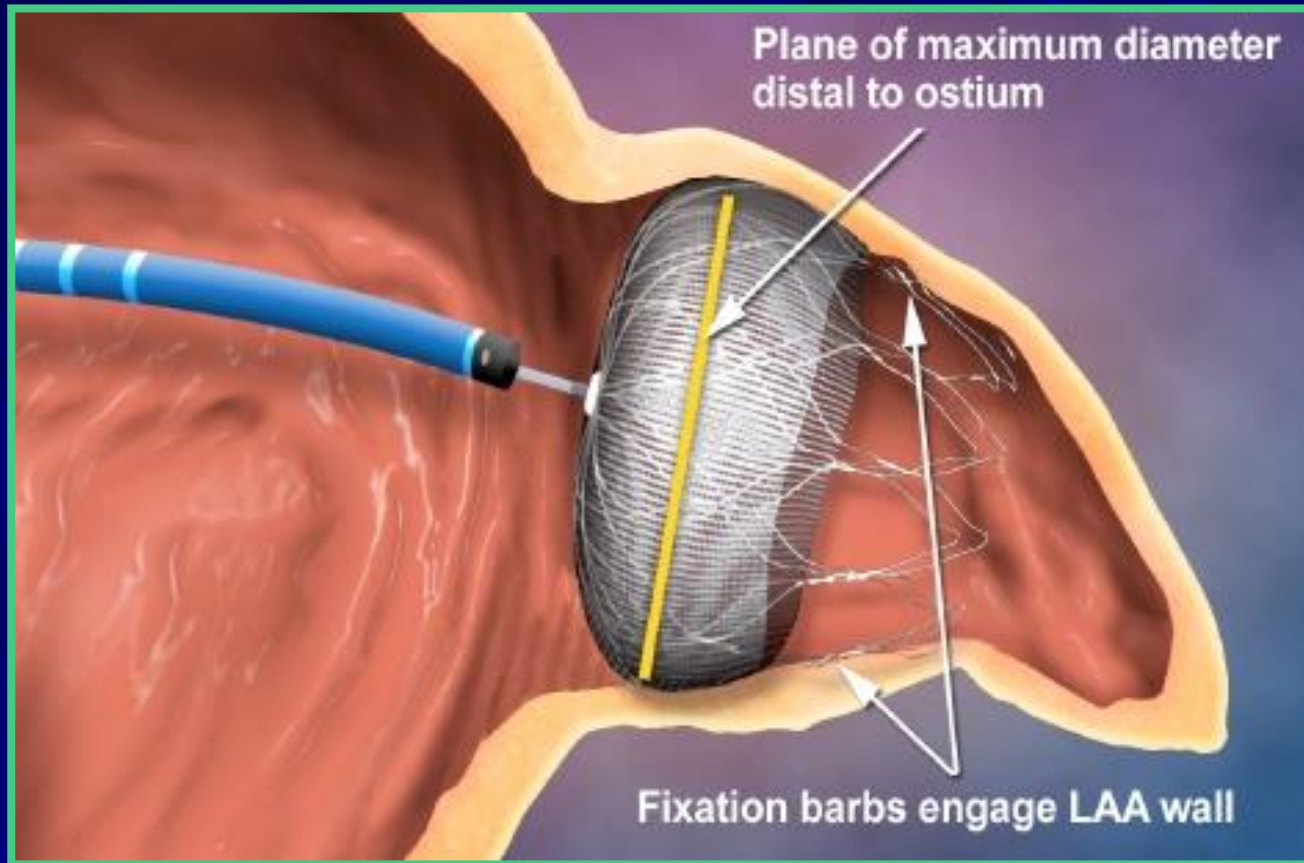
- SCAF (at least 1 episode ≥ 6 min but none > 24 hrs)
- CHA₂DS₂-VASc score \geq "3"

Active aspirin
81mg OD
+
Placebo
apixaban bid

Placebo
aspirin OD
+
Active
apixaban
5mg or 2.5mg*
bid

Primary Outcome of Stroke or Systemic Embolism

WATCHMAN LAA Closure Device

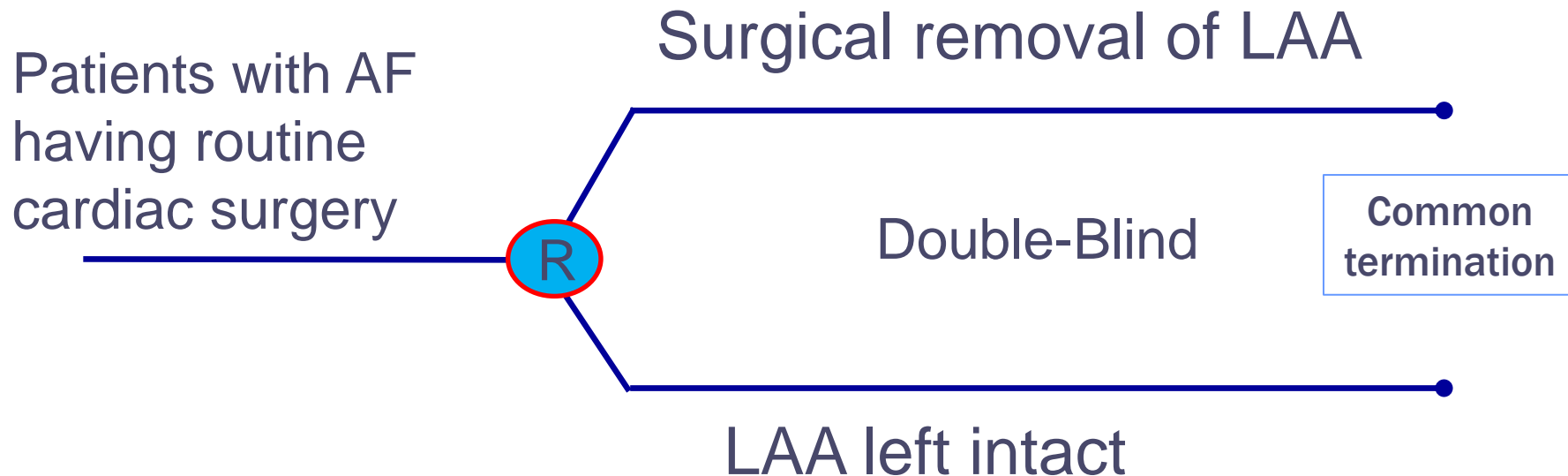


FDA Approval: March 2015

Patient-level meta-analysis of RCTs:

Holmes D, J Am Coll Cardiol. 2015 Jun 23;65(24):2614-23

4700 patients



Primary Outcome: Ischemic stroke or SE

How will we better prevent AF-related stroke in 5 years?

- 1. Improve use of OAC use in at-risk patients
- 2. Better treatment of HTN, OSA in AF patients
- 3. Screen for AF in high-risk groups
- 4. Determine AT/AF threshold for OAC benefit
- 5. Determine clinical role of LAA closure
 - Both surgical and catheter-based
- 6. Determine value of catheter-based rhythm control