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NHS Improvement NHS

Atrial Fibrillation
Key Messages

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European Heart Journal (2010) **31**, 2369–2429
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ESC GUIDELINES

Guidelines for the management of atrial fibrillation

The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC)

Developed with the special contribution of the European Heart Rhythm Association (EHRA)†

Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS)

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Clinical Events (outcomes) affected by AF

Outcome parameter	Relative change in AF patients
1. Death	Death rate doubled.
2. Stroke (includes haemorrhagic stroke and cerebral bleeds)	Stroke risk increased; AF is associated with more severe stroke
3. Hospitalisations	Hospitalisations are frequent in AF patients and may contribute to reduced quality of life.
4. Quality of life and exercice capacity	Wide variation from no effect to major reduction. AF can cause market distress trhough palpitations and other AF-related symptoms
5. Left ventricular function	Wide variation from no change to tachycardio-myopathy with acute heart failure.

European Heart Journal (2010) 31, 2369-2429

Conditions predisposing to, or encouraging progression of AF

- Hypertension
- Symptomatic heart failure (NYHA II - IV) including tachycardiomyopathy
- Valvular heart disease
- Cardiomyopathies including primary electrical cardiac disease
- Atrial septal defect and other congenital heart defects
- Coronary artery disease
- Thyroid dysfunction and possibly subclinical thyroid dysfunction
- Obesity
- Diabetes mellitus
- Chronic obstructive pulmonary disease (COPD) and sleep apnoea
- Chronic renal disease

www.escardio.org/guidelines

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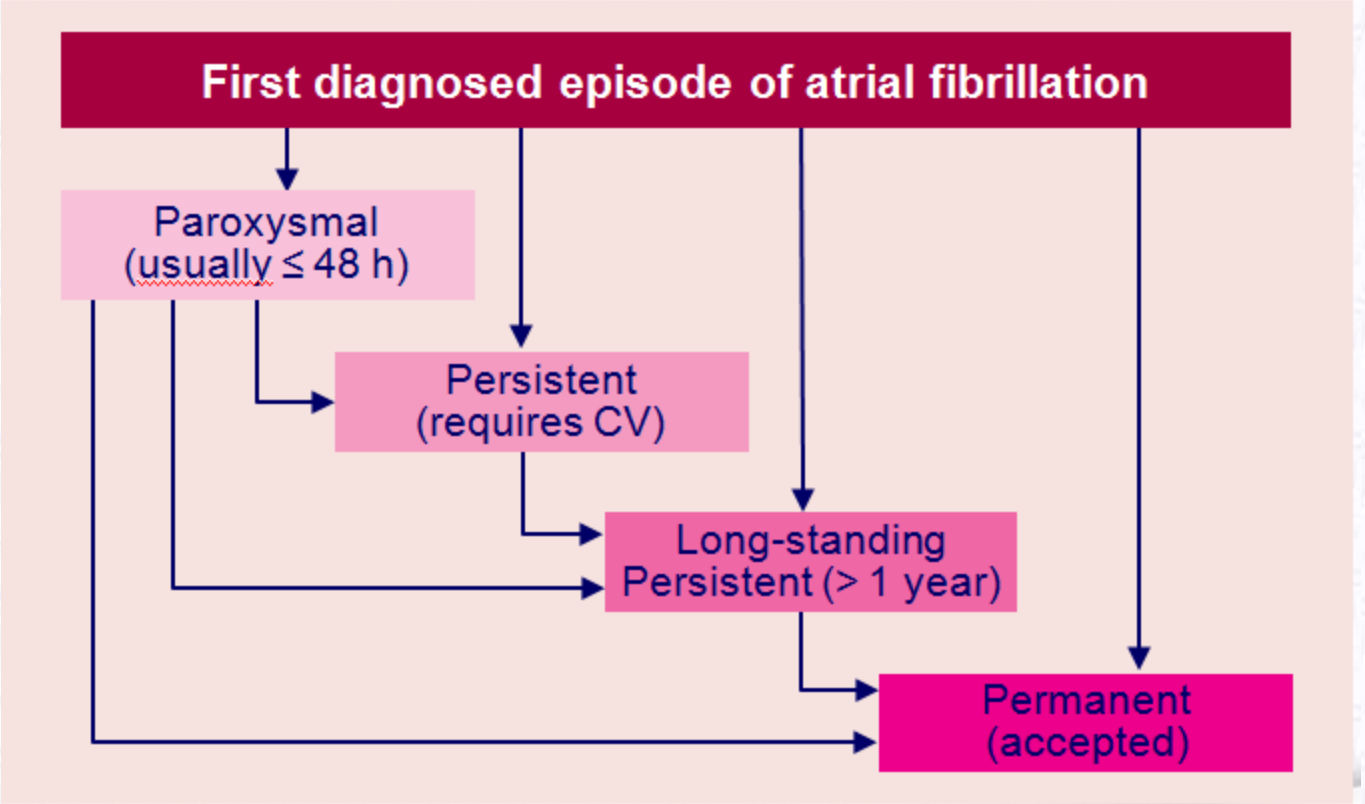
Types of Atrial Fibrillation



www.escardio.org/guidelines

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Clinical evaluation

- Acute ventricular rate control.
- Immediate assessment of the need for anticoagulation.
- First decision to add rhythm control therapy to the management based on symptoms (may be reassessed later).
- Treatment of underlying heart disease.

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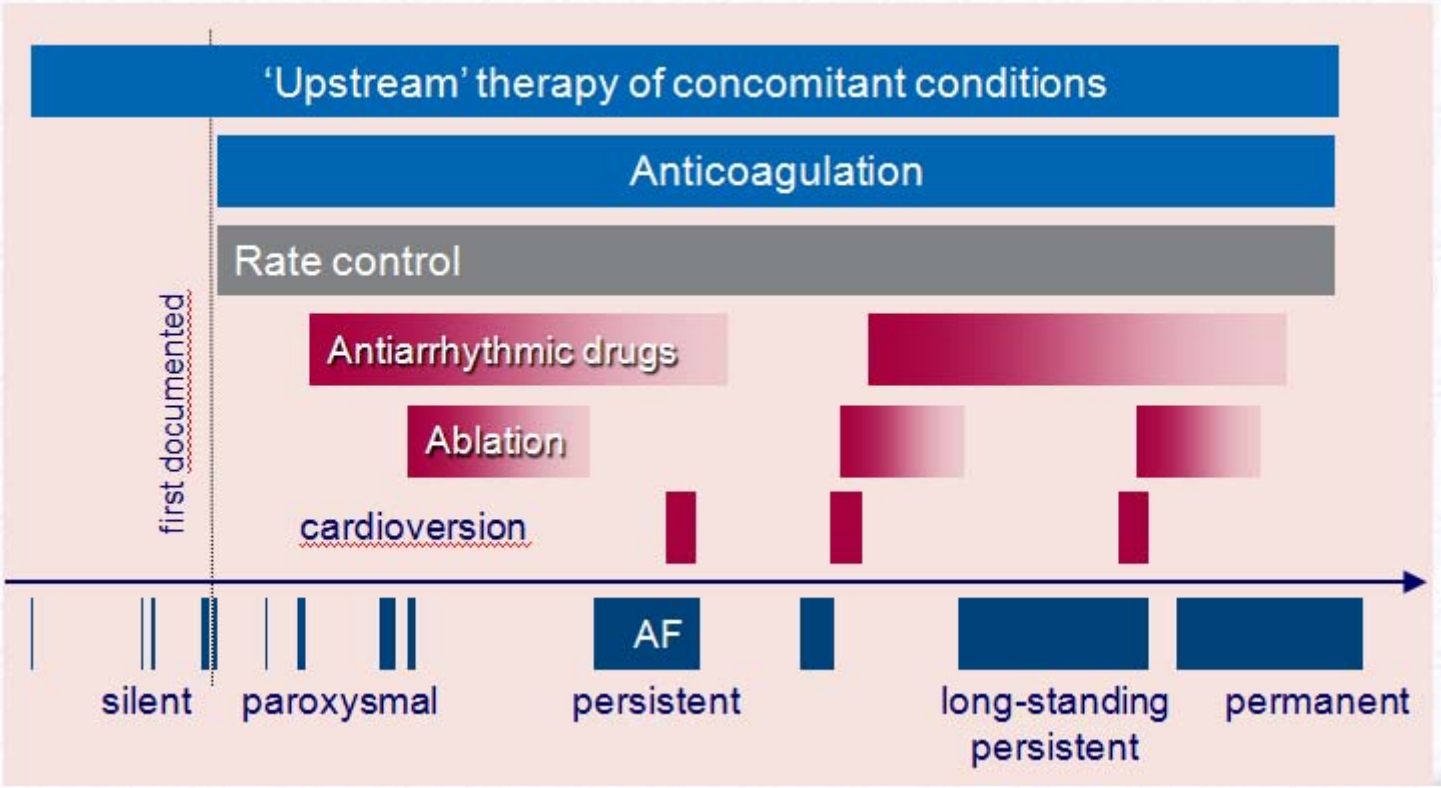
Natural time course of AF



AF = atrial fibrillation

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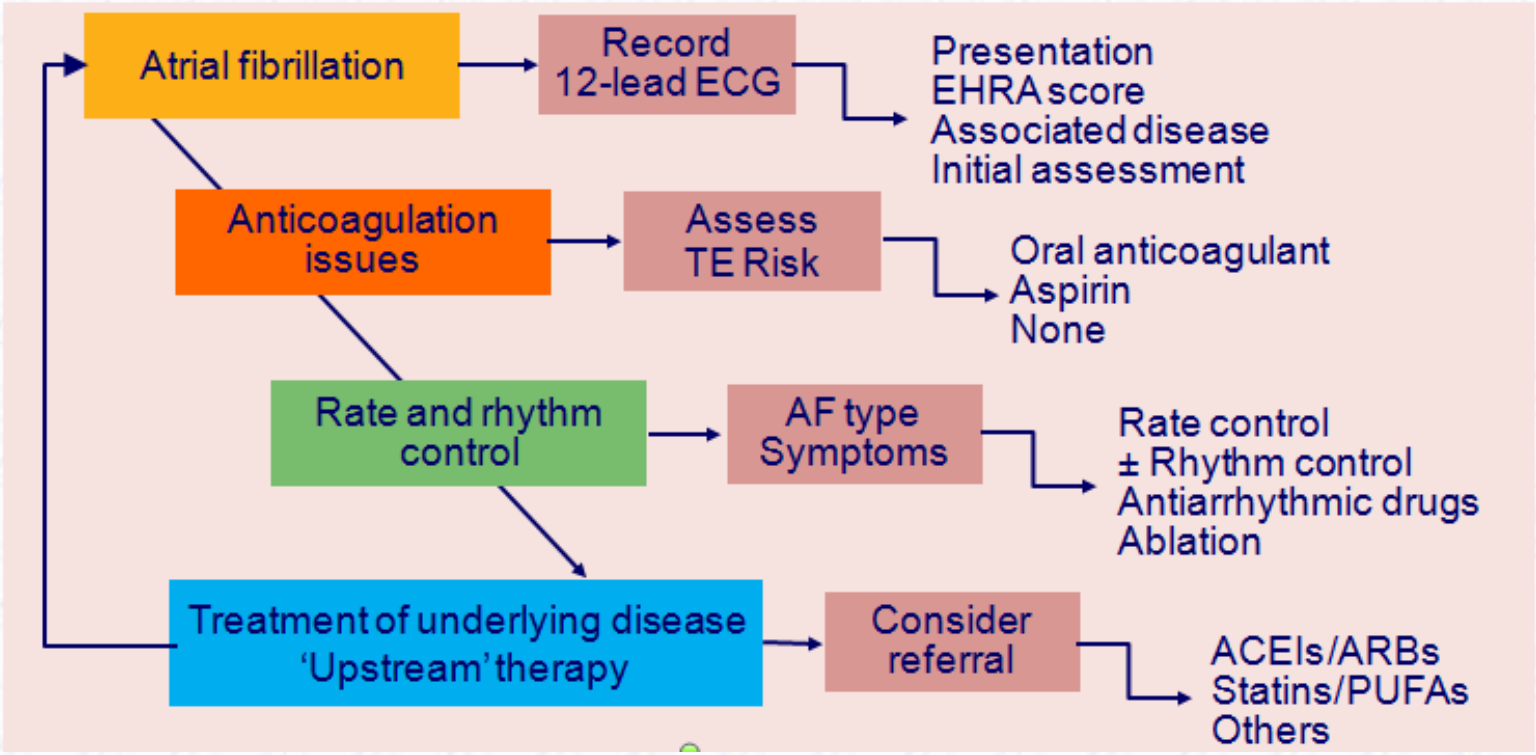
The management cascade for patients with AF



ACEI = angiotensin-converting enzyme inhibitor; AF = atrial fibrillation; ARB = angiotensin receptor blocker; PUFA = polyunsaturated fatty acid; TE = thrombo-embolism.

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Message One

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AF is a common disorder

- AF is the most common heart arrhythmia, with a prevalence of approximately 1.2% in primary care in the UK[1]
- Estimated numbers affected by AF:
  - England: 600,000[1]
  - Europe: 4.5 million[2]
  - USA: 5.1 million[3]
- Nearly one in four people at age 55 years will go on to develop AF (24% of men and 22% of women)[4]

1. NHS Improvement. June 2009. Available at http://www.improvement.nhs.uk/heart/Portals/0/documents2009/AF_Commissioning_Guide_v2.pdf; accessed April 2010; **2**. ACC/AHA/ESC guidelines: Fuster V et al. Circulation 2006;114:e257–354 and Eur Heart J 2006;27:1979–2030; **3.** Miyasaka Y et al. Circulation 2006;114:119–25; **4.** Heeringa J et al. Eur Heart J 2006;27:949–53

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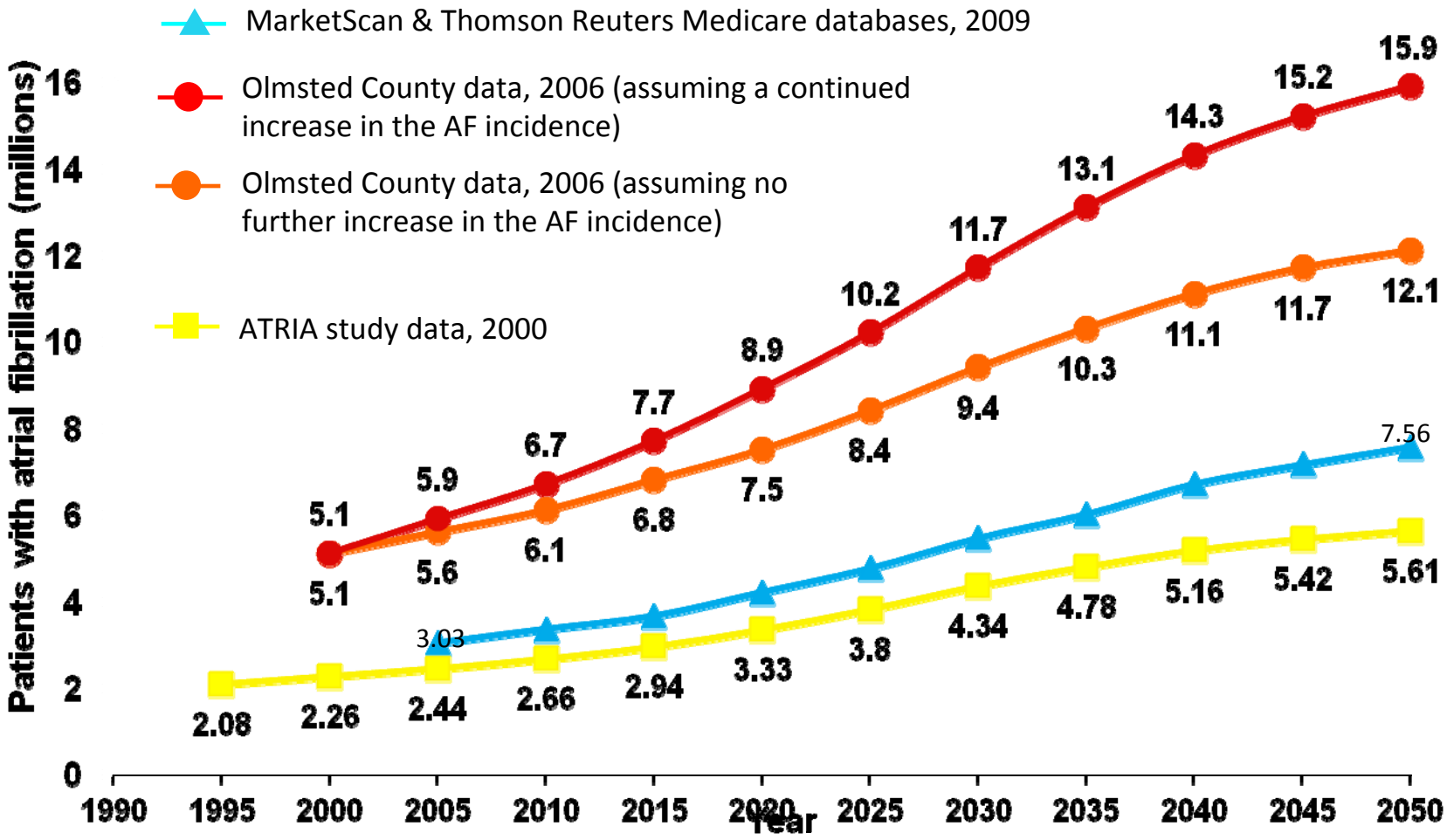
Projected Number of Patients With AF by 2050



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Message One

Atrial Fibrillation is Common

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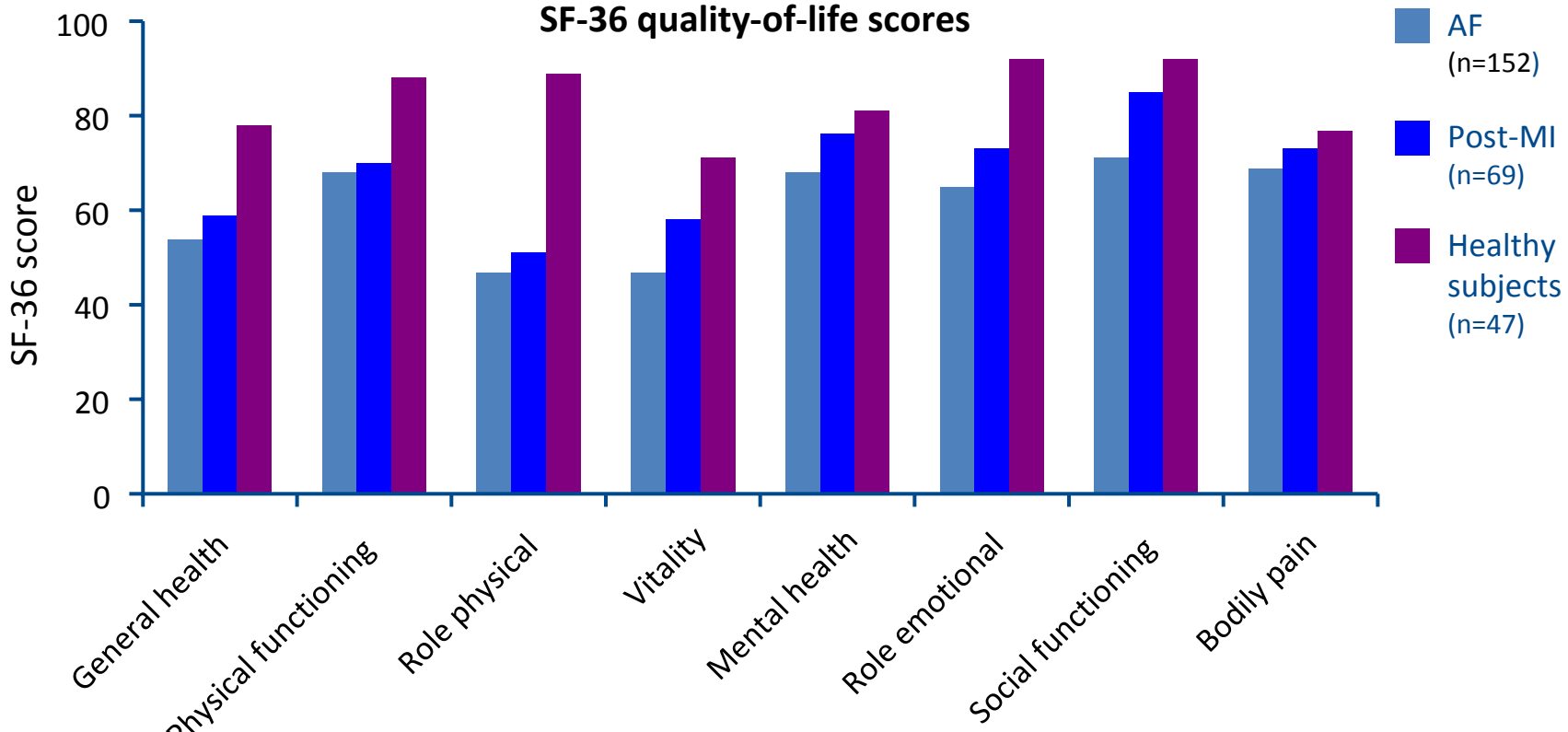
AF also incurs a significant personal burden

- In addition to costs to society, quality of life is worse in patients with AF versus other cardiac conditions such as post MI patients



MI = myocardial infarction; SF = Short Form

Dorian P et al. J Am Coll Cardiol 2000;36:1303–9

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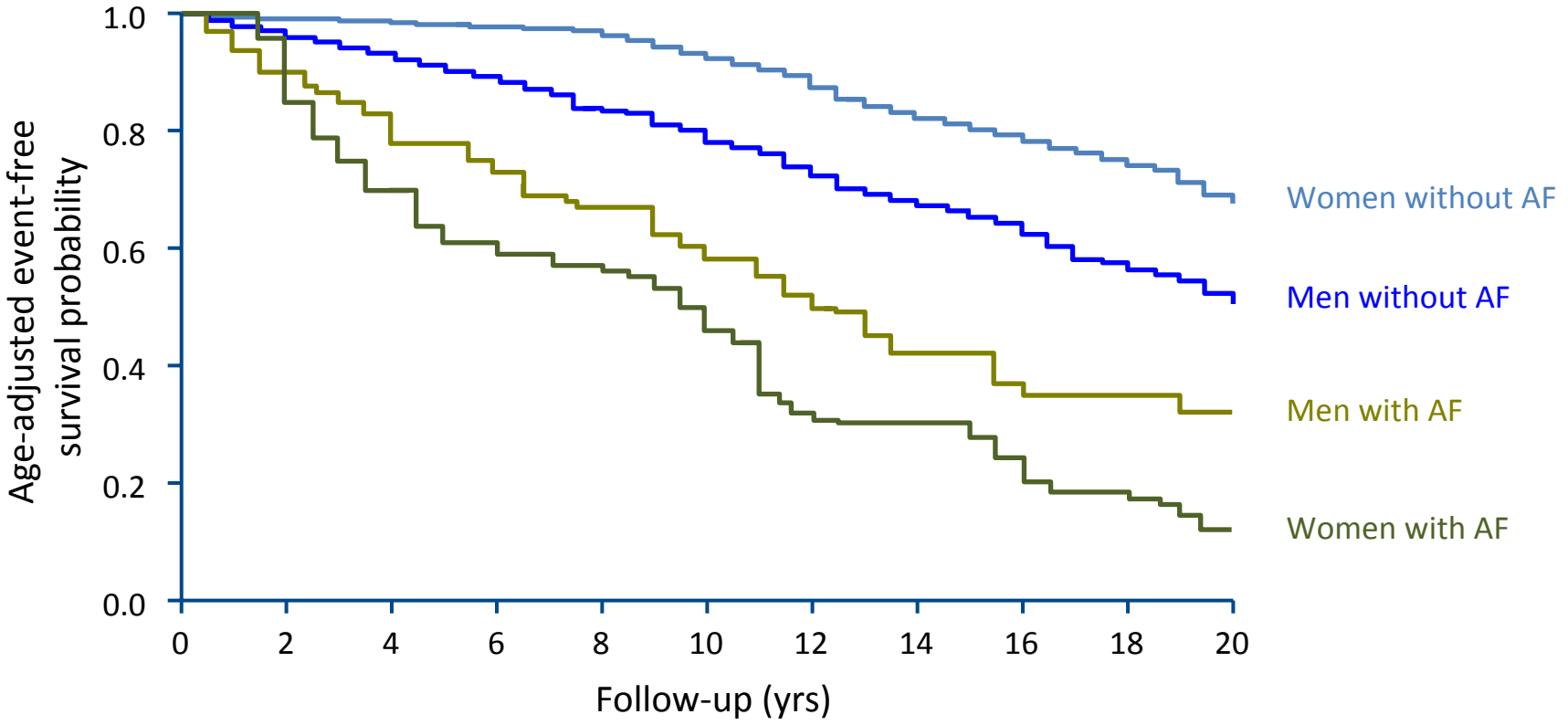
AF has serious consequences

- AF is associated with a number of serious and potentially life-threatening complications including stroke,[1,2] heart failure[2] and death[2,3]

Cardiovascular hospitalizations or death[2]



1. Wolf PA et al. Stroke 1991;22:983–8; **2.** Stewart S et al. Am J Med 2002;113:359–64;
3. Benjamin E et al. Circulation 1998;98:946–52

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Stroke is a frequent complication of AF

- Stroke is the leading complication of AF
- Patients with AF have a five-fold higher stroke risk than those without AF[1]
- AF doubles the risk of stroke when adjusted for other risk factors[2]
- Without preventive treatment, each year approximately 1 in 20 patients (5%) with AF will have a stroke[3]
  - When transient ischaemic attacks and clinically 'silent' strokes are considered, the rate of brain ischaemia associated with non-valvular AF exceeds 7% per year[4]
- It is estimated that 15% of all strokes are caused by AF[5] and that 12,500 strokes per year in England are directly attributable to AF[6]

1. NICE clinical guideline 36.June 2006. Available at http://www.nice.org.uk/guidance/CG36/?c=91497; accessed April 2010; **2**. ACC/AHA/ESC guidelines: Fuster V et al. Circulation 2006;114:e257–354 & Eur Heart J 2006;27:1979–2030; **3.** Atrial Fibrillation Investigators. Arch Intern Med 1994;154:1449–57; **4.** Carlson M. Medscape Cardiology. 2004;8; available at http://cme.medscape.com; accessed Feb 2010; **5.** Lip GYH, Lim HS. Lancet Neurol 2007;6:981-93; **6.** NHS Improvement. June 2009. Available at http://www.improvement.nhs.uk/heart/Portals/0/documents2009/AF_Commissioning_Guide_v2.pdf; accessed April 2010

Stroke is a serious complication of AF

- Stroke in AF is associated with a heavy burden of morbidity and mortality
- AF stroke is usually more severe than stroke due to other causes[1]
- Compared with other stroke patients, those with AF are more likely to:
  - Have cortical deficit (e.g. aphasia), severe limb weakness and diminished alertness, and be bedridden on admission[2]
  - Have longer in-hospital stay with a lower rate of discharge to their own home[3]
- The mortality rate for patients with AF is double that in people with sinus rhythm[4]

1. Savelieva I et al. Ann Med 2007;39:371–91; **2.** Dulli DA et al. Neuroepidemiology 2003;22:118–23; **3.** NICE clinical guideline 36.June 2006. Available at http://www.nice.org.uk/guidance/CG36/?c=91497; accessed April 2010; **4**. Benjamin EJ et al. Circulation 1998;98:946–52

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AF and associated stroke incur substantial healthcare costs[1]

- AF accounts for more than 1% of healthcare expenditure in the UK
- Total costs for treating the 12,500 strokes in England that are attributable to AF is £148 million in the first year
- The cost per stroke due to AF is estimated to be £11,900 in the first year after a stroke occurs

1. NHS Improvement. Commissioning for Stroke Prevention in Primary Care: The Role of Atrial Fibrillation. June 2009. Available at http://www.improvement.nhs.uk/heart/Portals/0/documents2009/AF_Commissioning_Guide_v2.pdf; accessed April 2010

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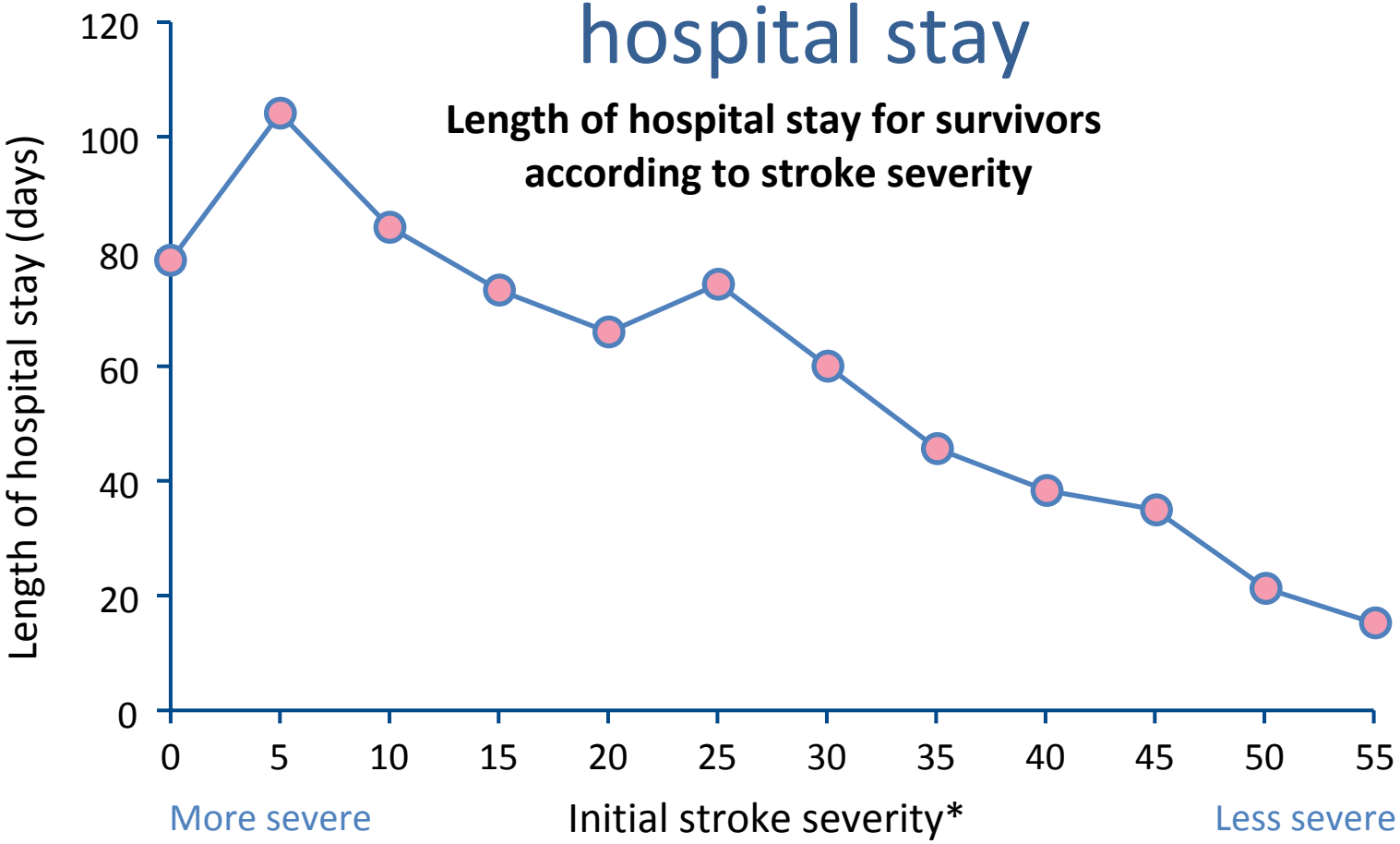
Stroke severity increases the length of hospital stay



1197 acute stroke patients participating in the Copenhagen Stroke Study; *Scandinavian Neurological Stroke Score on admission

Jorgensen HS et al. Stroke 1997;28:1138–41

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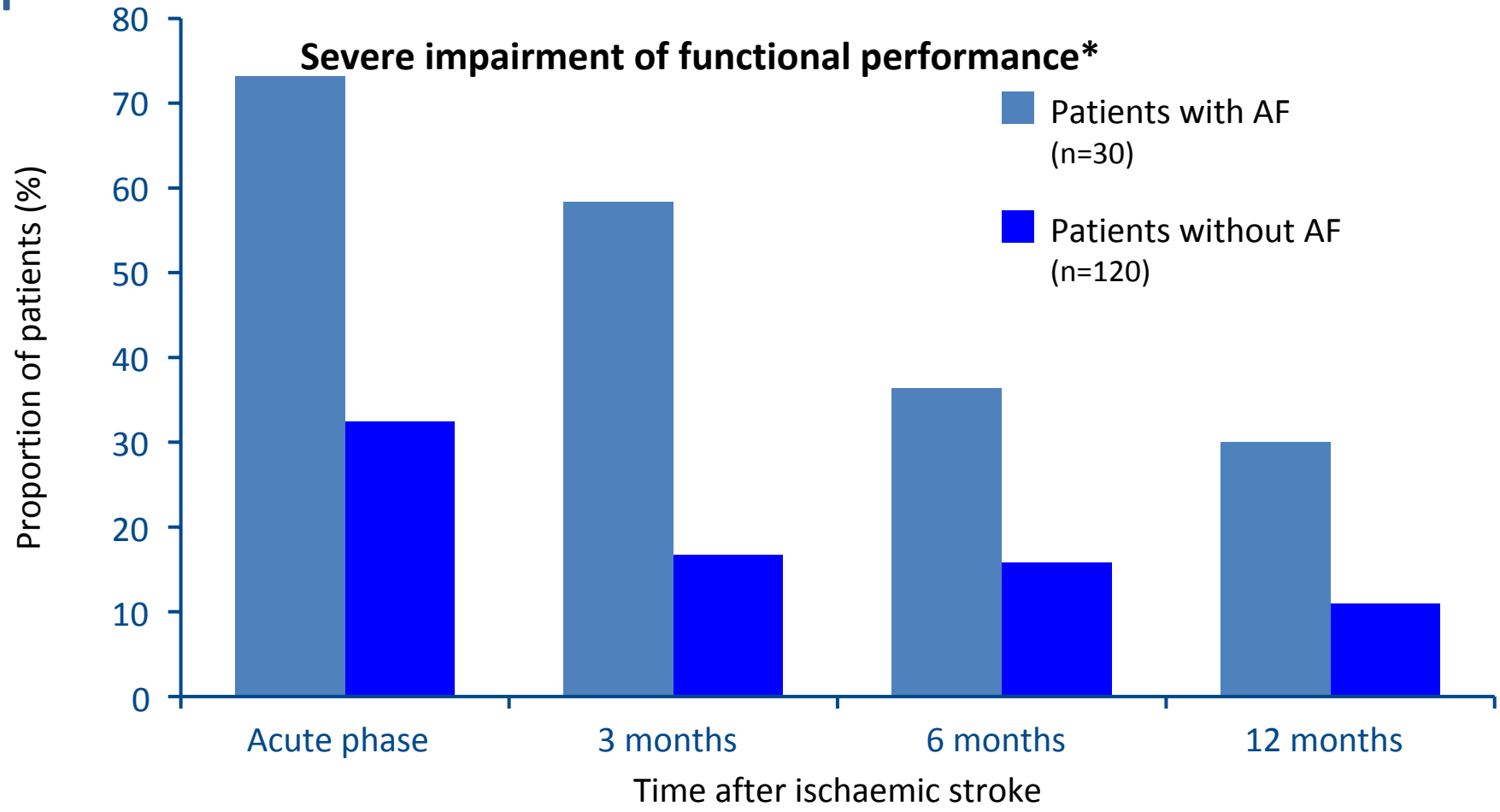
AF is associated with poorer functional performance in survivors of ischaemic stroke



>40-year follow-up of 5070 participants in the Framingham study; *Barthel Index

Lin HJ et al. Stroke 1996;27:1760–4

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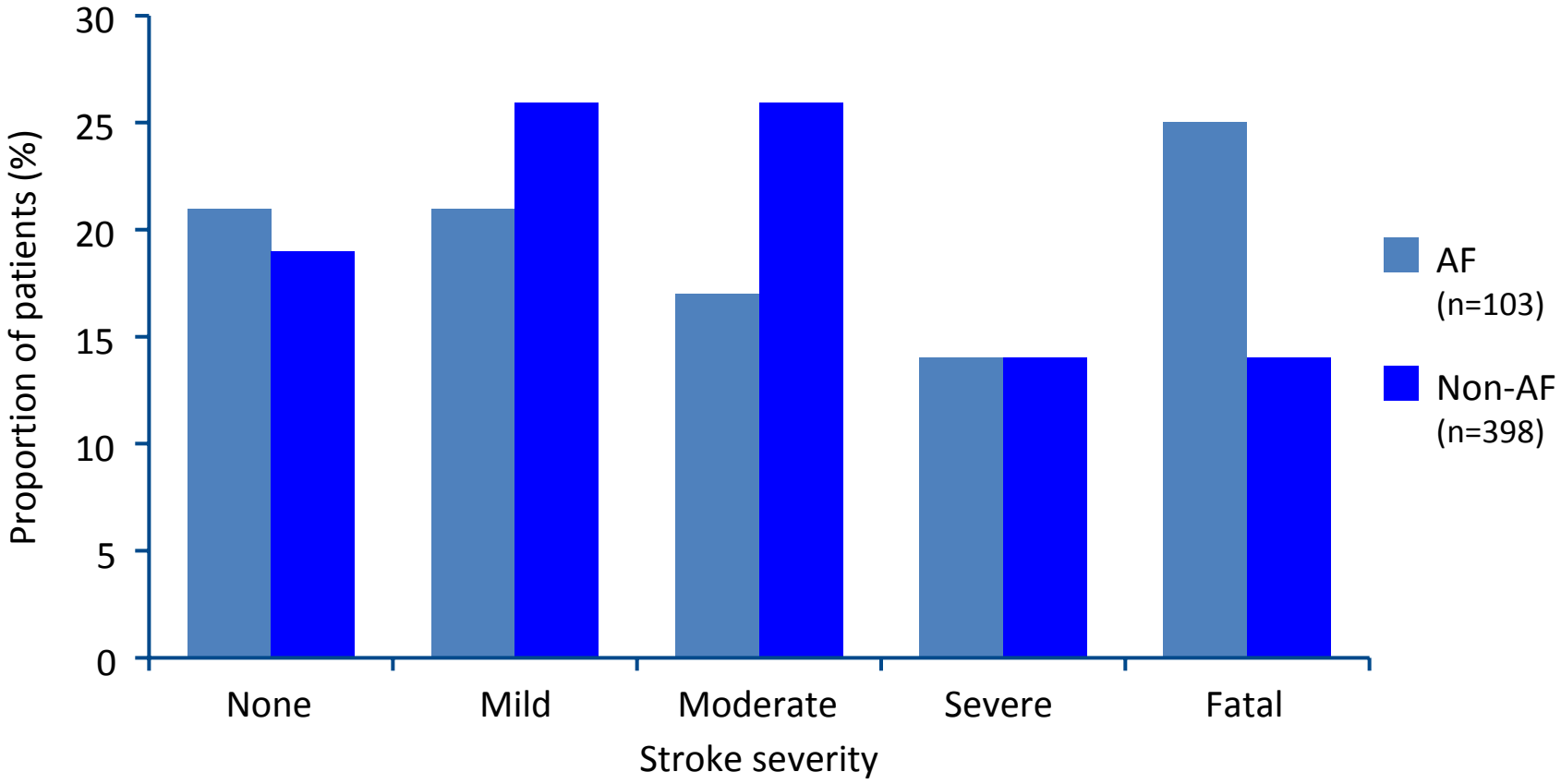
Stroke is more likely to be fatal in patients with AF

P=0.048



Lin HJ et al. Stroke 1996;27:1760–4

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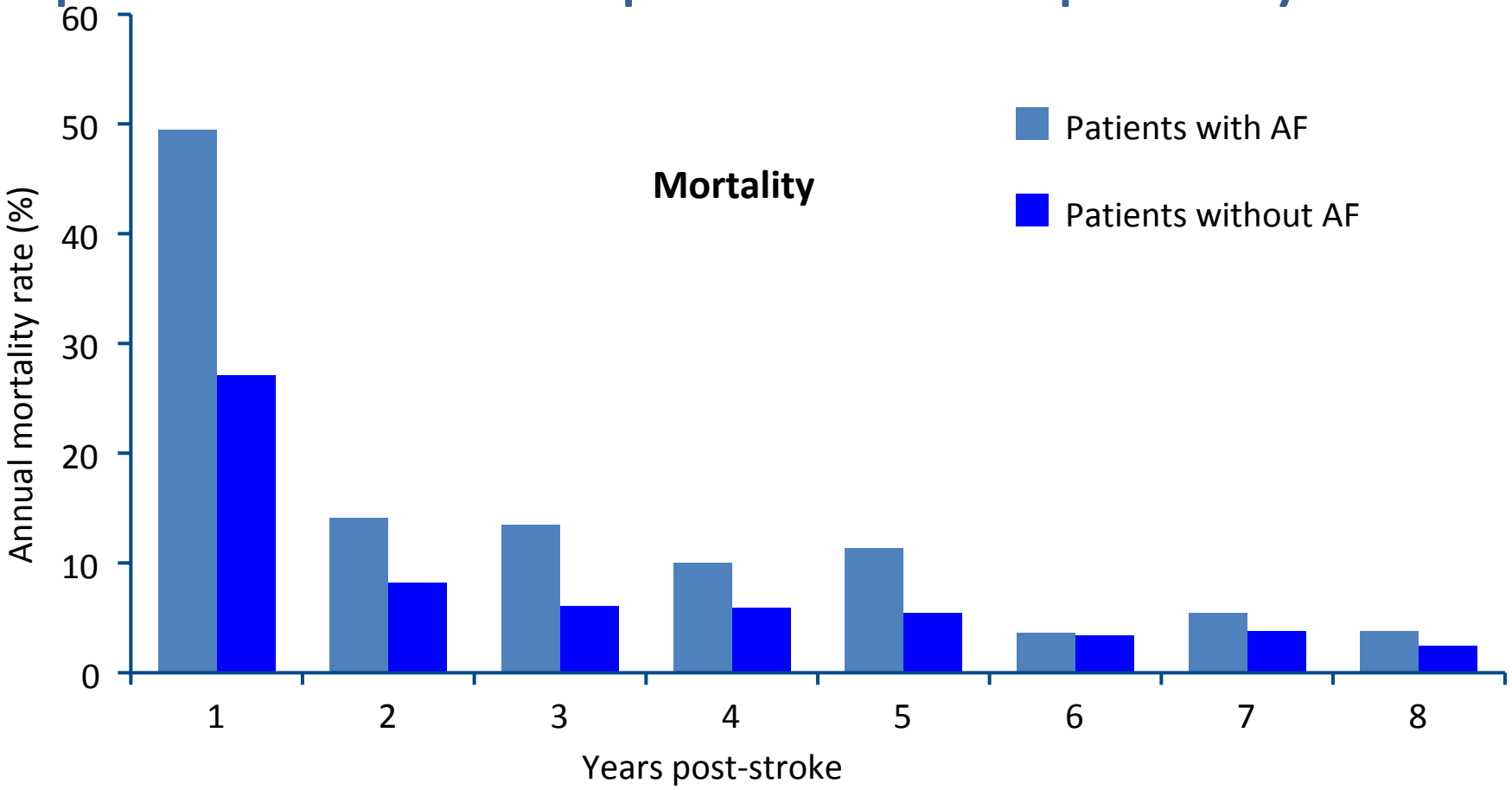
Increased risk of death after stroke in patients with AF persists for up to 8 years



Population-based study of 3530 patients with ischaemic stroke

Marini C et al. Stroke 2005;36:1115–9

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Message Two

Atrial Fibrillation brings significant problems

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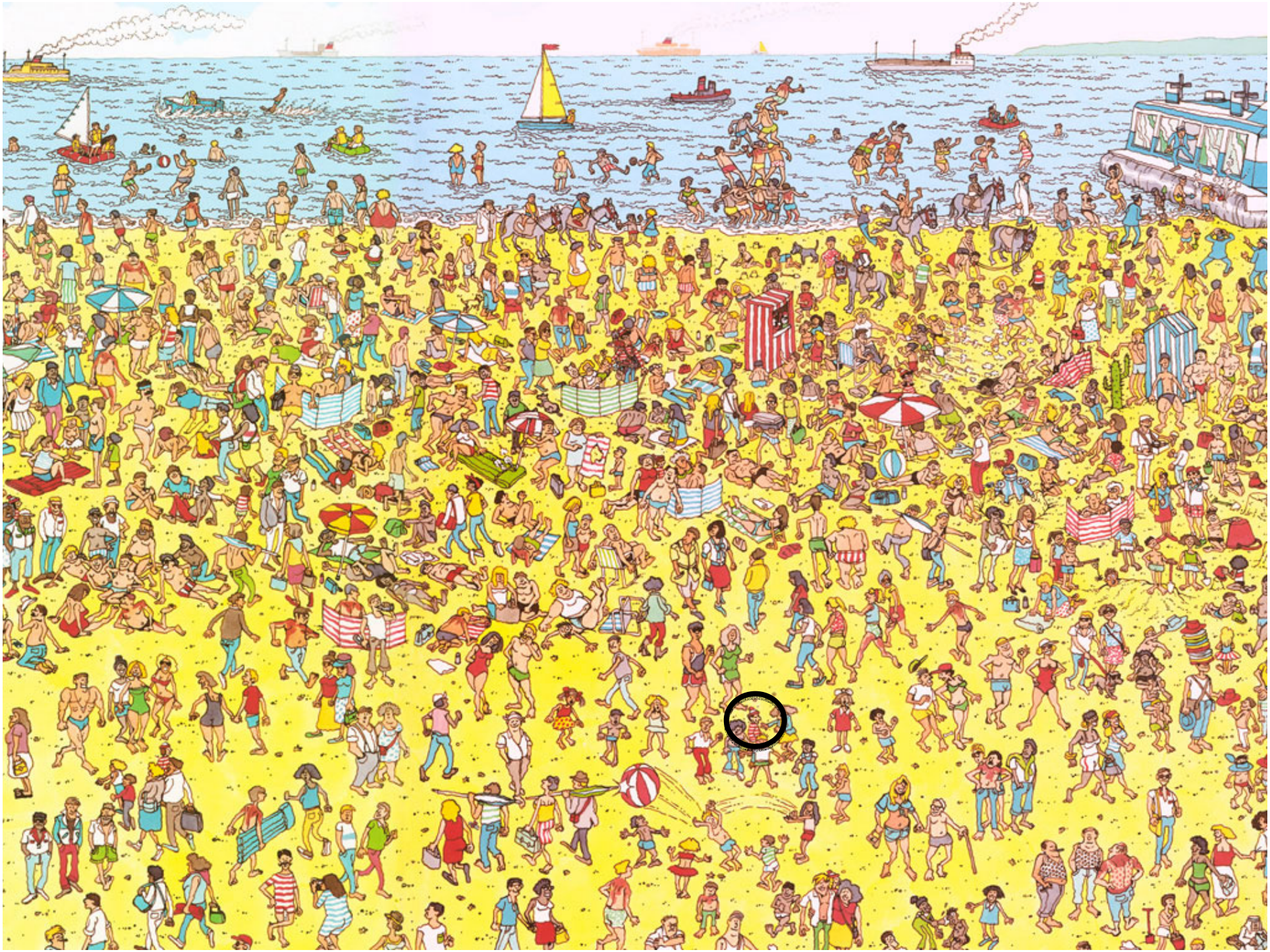
Message Three



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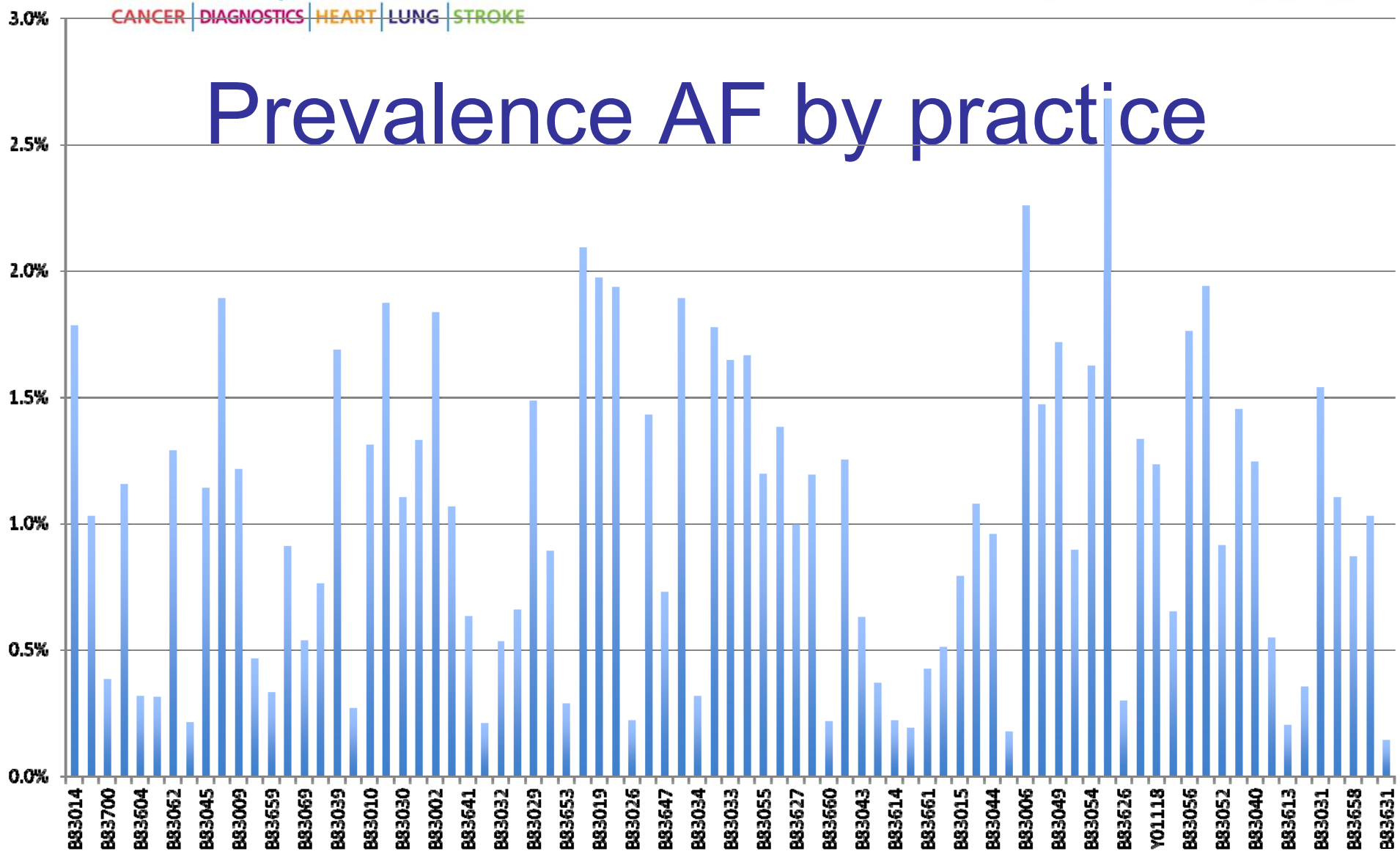
Prevalence AF by practice



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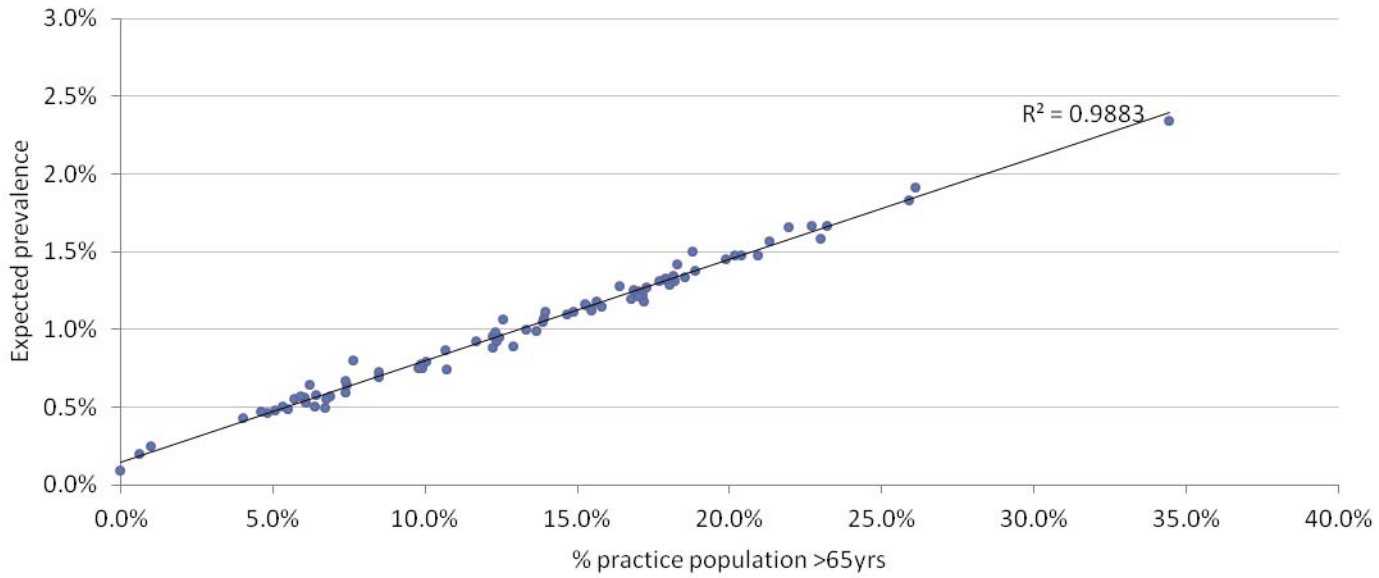
Prevalence AF a linear Relationship to over 65yrs



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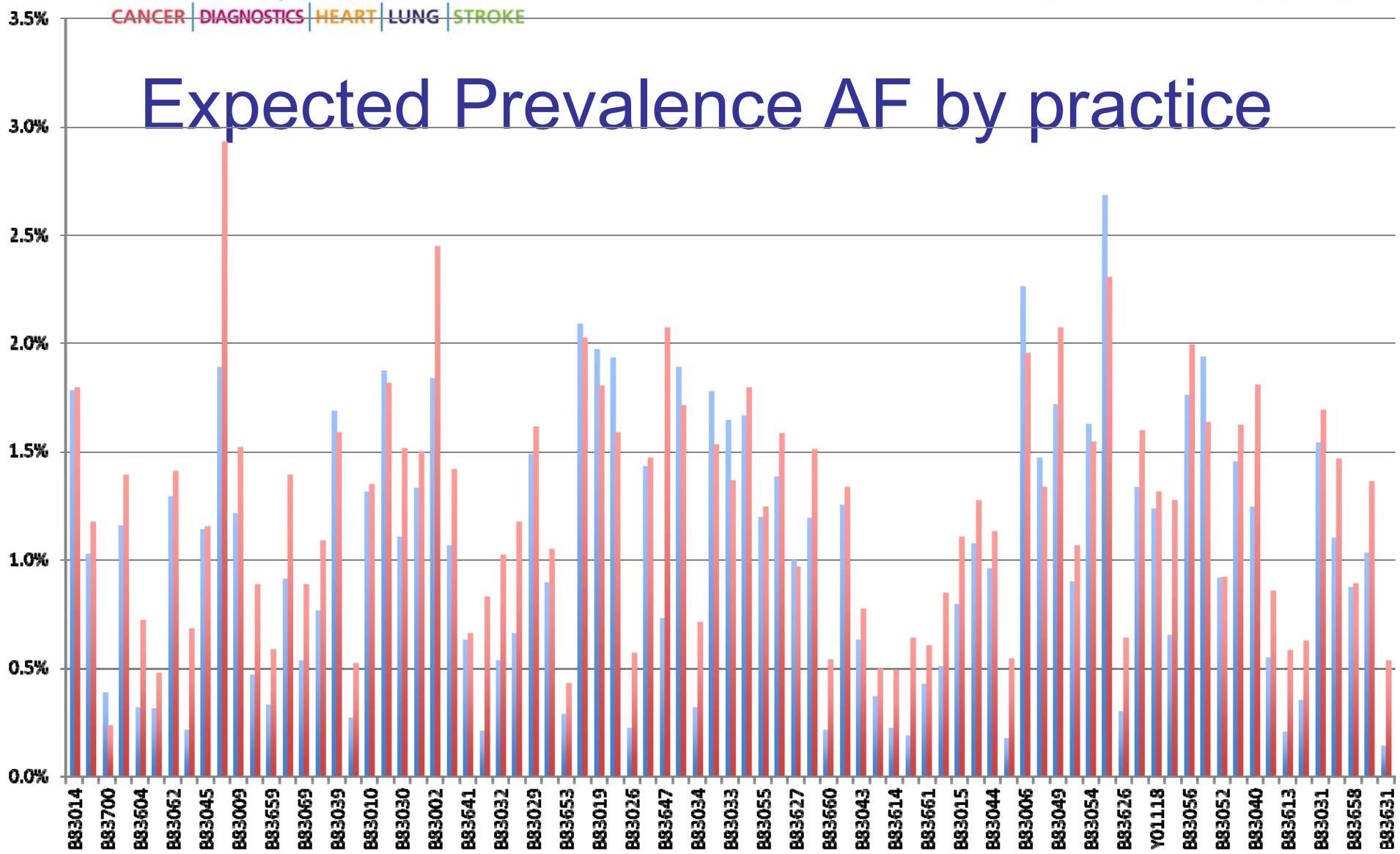
Expected Prevalence AF by practice



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SAFE Study

Table 3 | Prevalence and detection rate of new cases by age at start of study and sex. Figures are numbers (percentages)

	Men			Women			
Group	65-74	75-84	≥85	65-74	75-84	≥85	Total
Baseline prevalence							
Control	74/1216 (6.1)	84/703 (11.9)	25/156 (16.0)	44/1378 (3.2)	106/1050 (10.1)	56/420 (13.3)	389/4923 (7.9)
Opportunistic	70/1304 (5.4)	63/650 (9.7)	24/148 (16.2)	48/1448 (3.3)	91/1005 (9.1)	44/375 (11.7)	340/4930 (6.9)
Systematic	69/1318 (5.2)	67/647 (10.4)	15/154 (9.7)	68/1391 (4.9)	70/1022 (6.8)	50/396 (12.6)	339/4928 (6.9)
12 month prevalence							
Control	81/1213 (6.7)	91/699 (13.0)	27/151 (17.9)	55/1377 (4.0)	122/1044 (11.7)	60/418 (14.4)	436/4902 (8.9)
Opportunistic	90/1303 (6.9)	77/647 (11.9)	28/148 (18.9)	59/1443 (4.1)	109/1001 (10.9)	52/373 (13.9)	415/4915 (8.4)
Systematic	90/1312 (6.9)	82/643 (12.8)	23/154 (14.9)	77/1387 (5.6)	88/1012 (8.7)	53/398 (13.5)	413/4906 (8.4)
12 month new case detection							
Control	7/1139 (0.6)	7/615 (1.1)	2/126 (1.6)	11/1333 (0.8)	16/938 (1.7)	4/362 (1.1)	47/4513 (1.0)
Opportunistic	20/1233 (1.6)	14/584 (2.4)	4/124 (3.2)	11/1395 (0.8)	18/910 (2.0)	8/329 (2.4)	75/4575 (1.6)
Systematic	21/1243 (1.7)	15/576 (2.6)	8/139 (5.8)	9/1319 (0.7)	18/942 (1.9)	3/343 (0.9)	74/4562 (1.6)

Fitzmaurice, D. A et al. BMJ 2007;335:383

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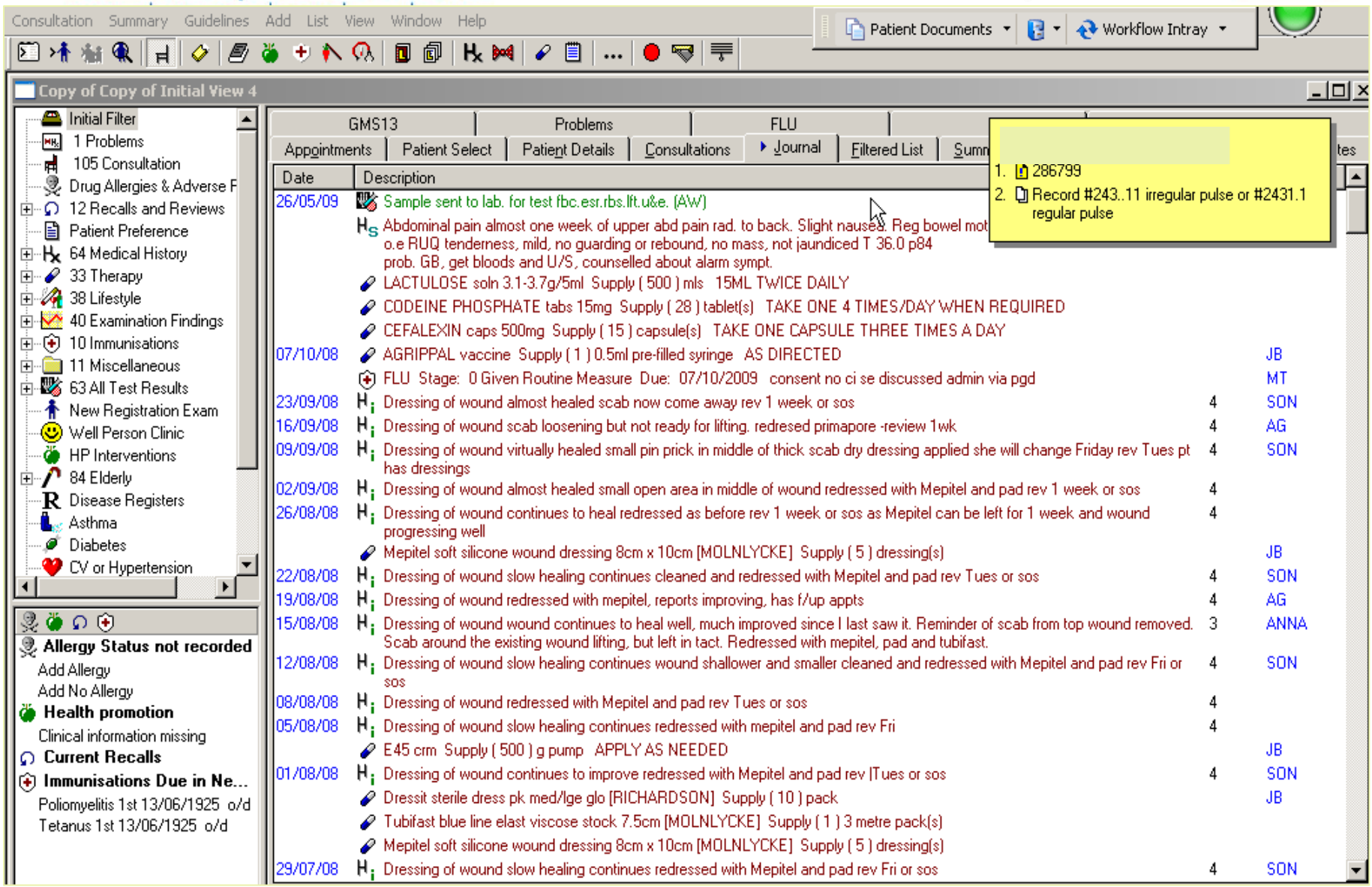

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Key Facts

- 83.3% screened opportunistically
- 13% with irregular pulse
- 6.3% had ECGs
- 36% had AF on ECG
- Number needed to screen 43
- Change in prevalence 1.32 -> 1.82%
- Prevalence of 65ys and older: 10.9%

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GRASP data- prevalence of AF

All Networks Feb 2011	Number patients with AF	Prevalence of AF (%)
Total	156,269	1.73

92 PCTs

1265 practices uploaded

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Message Three

If you look for Atrial Fibrillation you will find it

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Message Four

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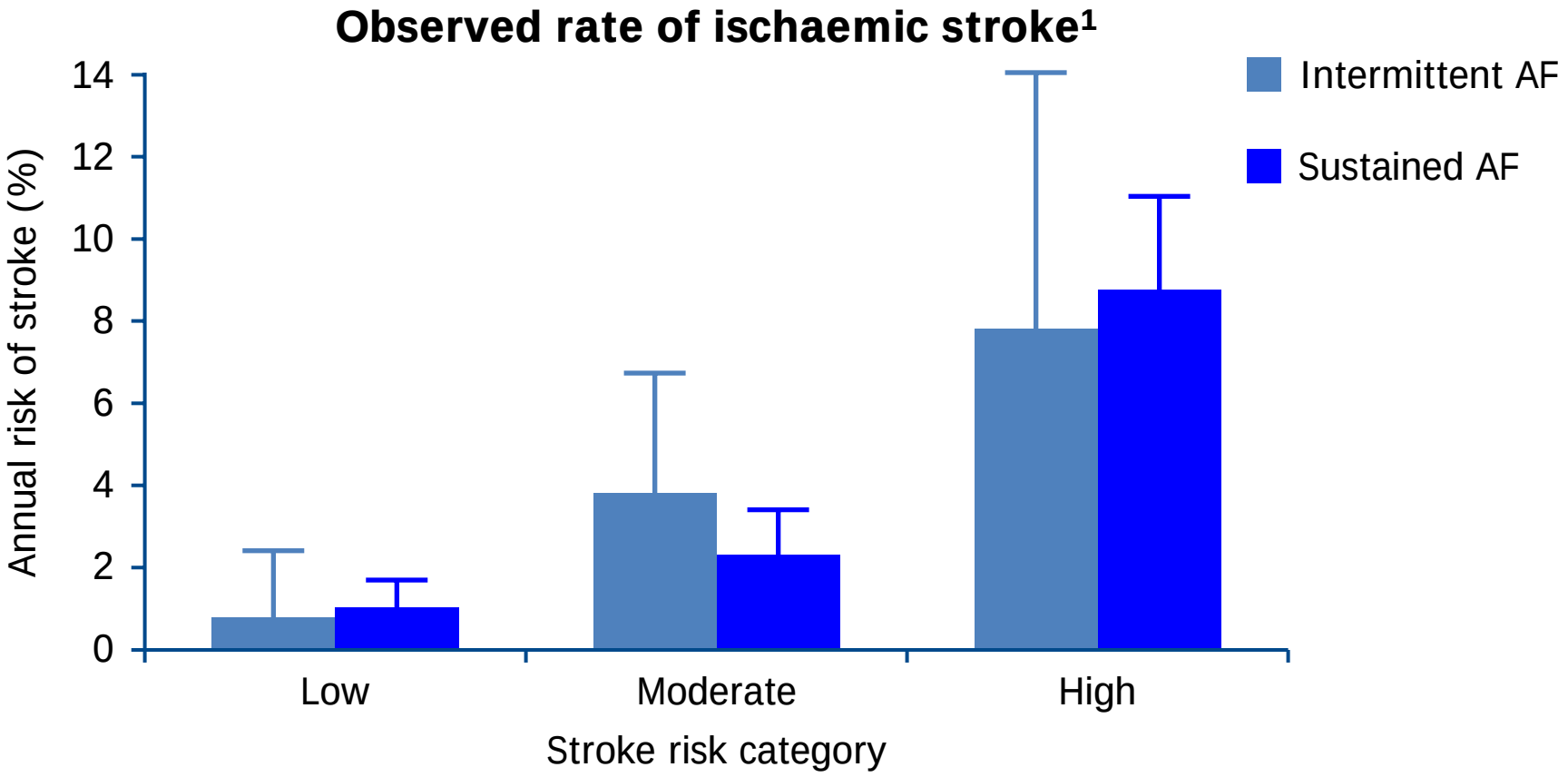
Stroke risk persists even in asymptomatic/paroxysmal AF

- The risk of stroke with asymptomatic or paroxysmal AF is comparable to that with permanent AF[1,2]



1. Hart RG et al. J Am Coll Cardiol 2000;35:183–7; 2. Flaker GC et al. Am Heart J 2005;149:657–63

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Message Four

It does not matter if it comes and goes its still dangerous

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Message Five

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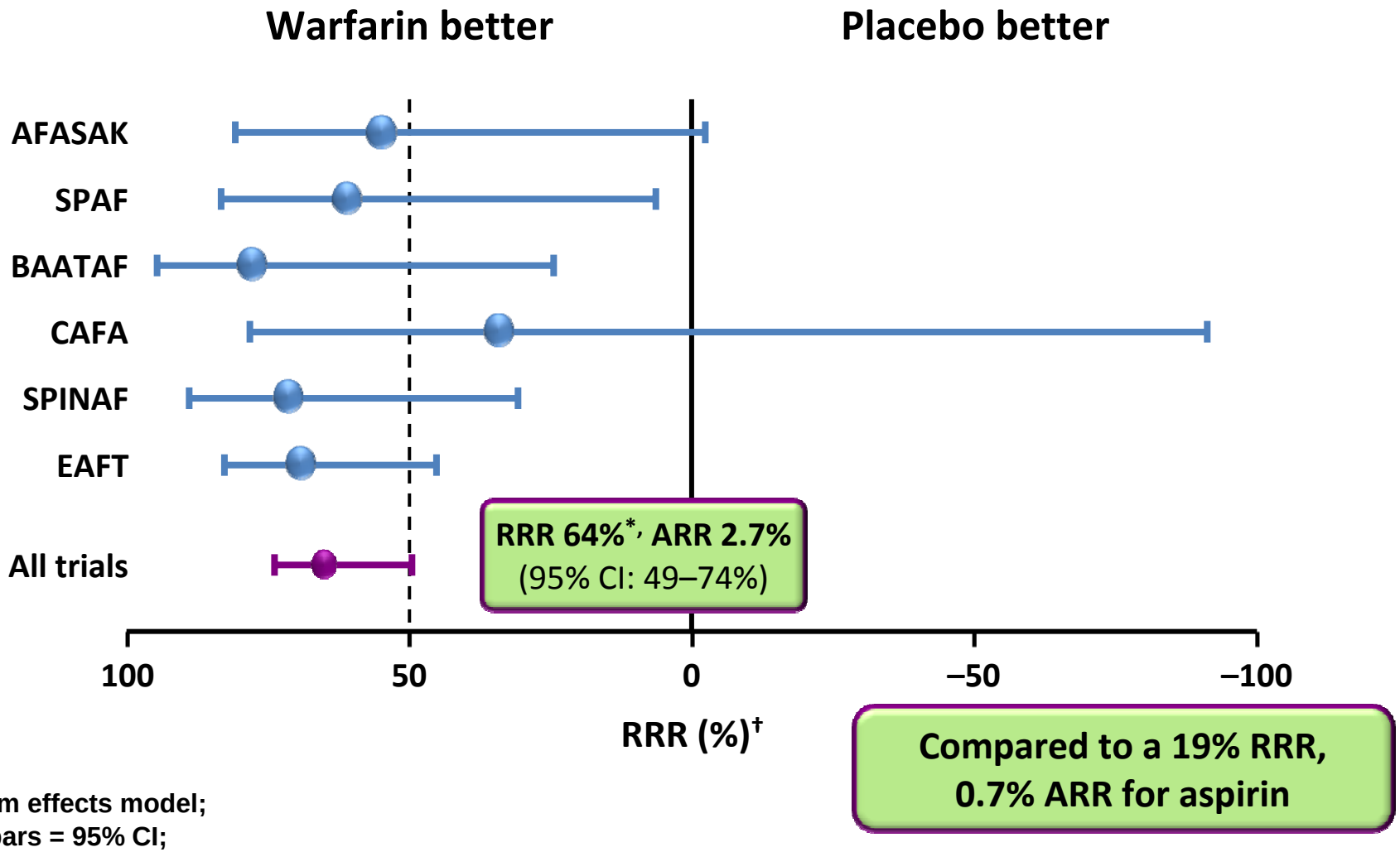

Random effects model;
Error bars = 95% CI;
* *p*>0.2 for homogeneity;
† Relative risk reduction (RRR) for all strokes (ischaemic and haemorrhagic)

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Message Five

We have an excellent treatment

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Message Six

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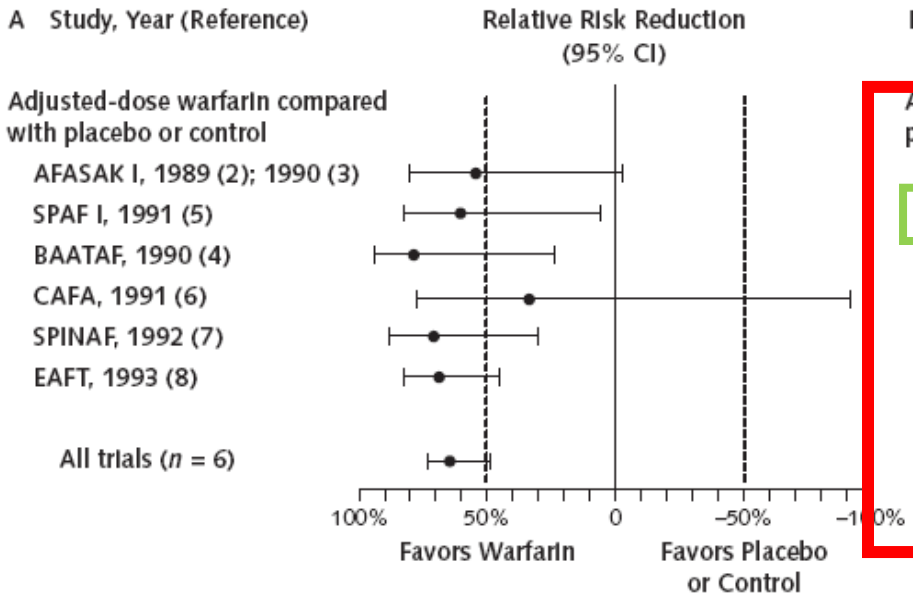
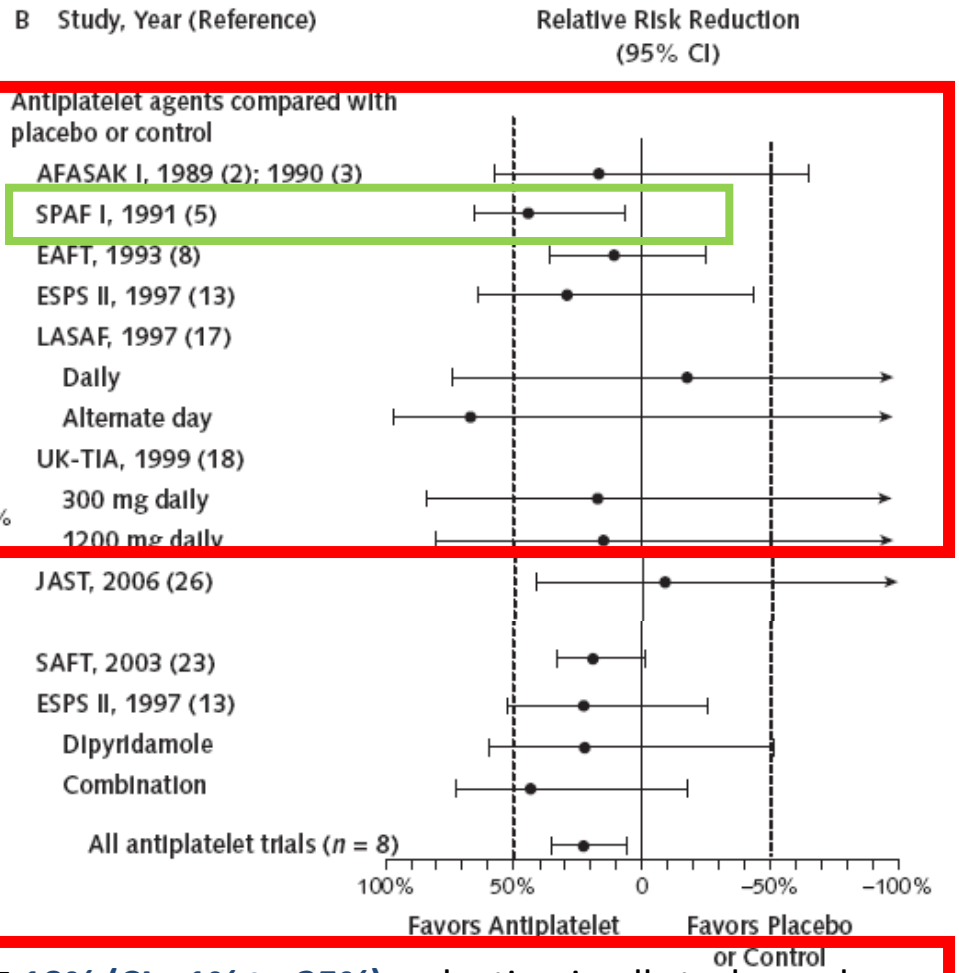
Antithrombotic Therapy to Prevent Stroke in Patients Who Have Nonvalvular AF

Hart et al Ann Intern Med. 2007;146:857-867.





Comparison	RRR
OAC vs control	64%
APT vs control	22%

Aspirin vs placebo: 3990 participants in 7 trials ≡ **19% (CI, -1% to 35%)** reduction in all strokes; also, 13% (CI, -18% to 36%) reduction in disabling strokes and a 29% (CI, -6% to 53%) reduction in nondisabling strokes

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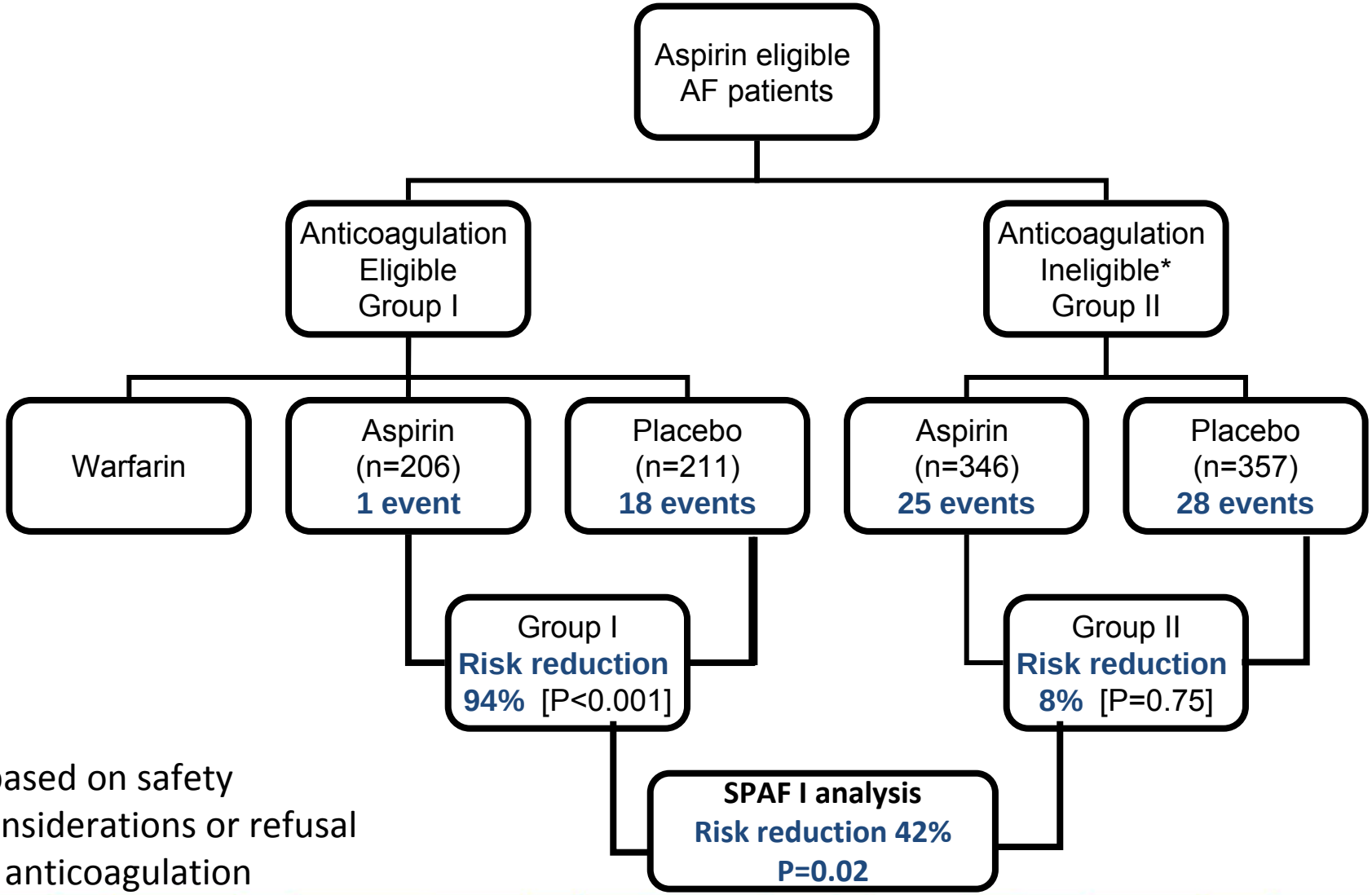
Aspirin effect vs group assignment (anticoagulation eligibility) in the SPAF-I study

J Stroke Cerebrovasc Dis 1993; 3: 181-188



*based on safety considerations or refusal of anticoagulation

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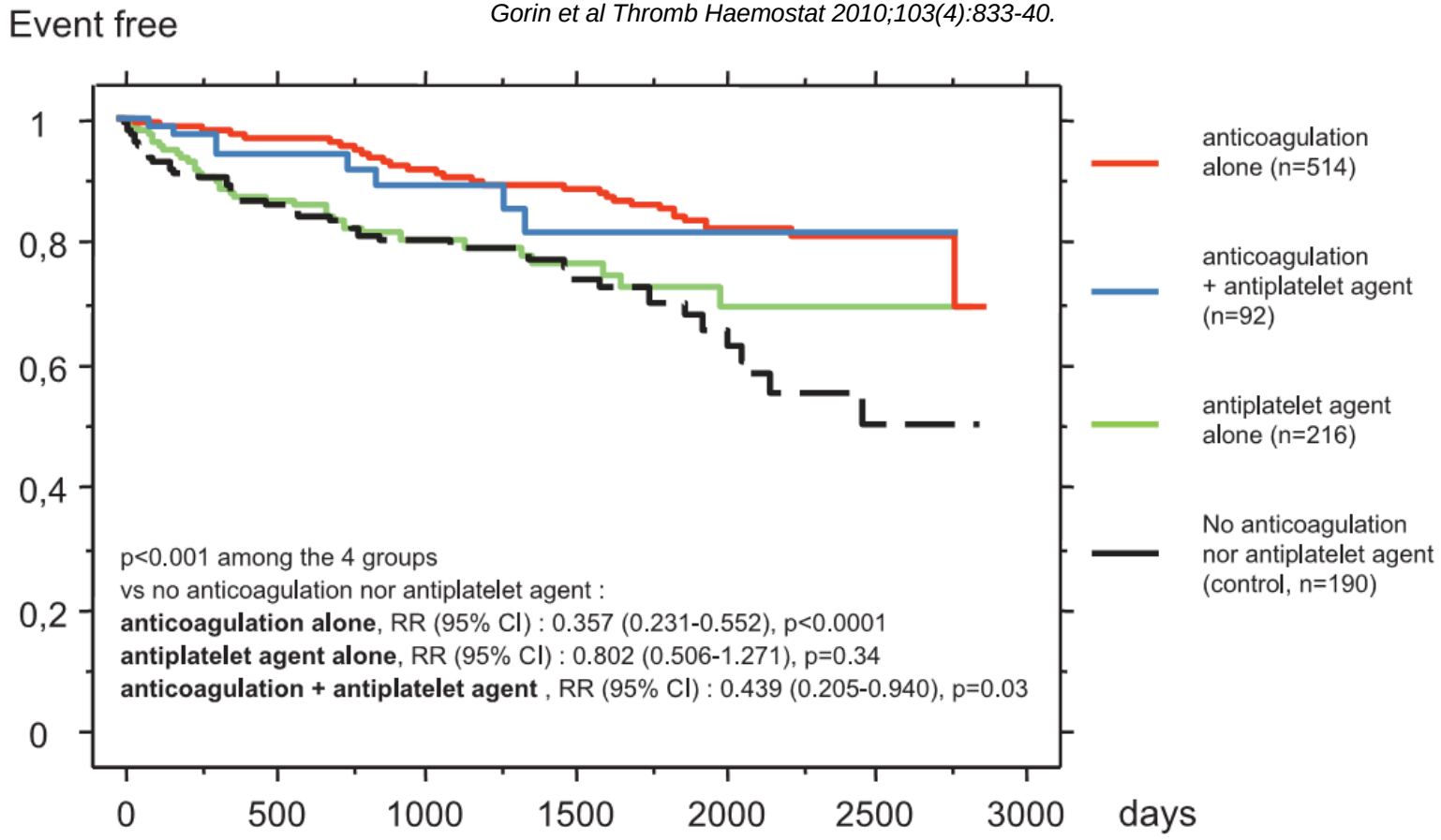
Antithrombotic treatment and risk of stroke and death in patients with AF at intermediate risk [$CHADS_2$ score=1]

Gorin et al Thromb Haemostat 2010;103(4):833-40.



Combined endpoint (death or stroke) in patients with a $CHADS_2$ =1 according to their antithrombotic treatment. A total of 1,012 patients, 949 ± 777 days FU, 124 events.

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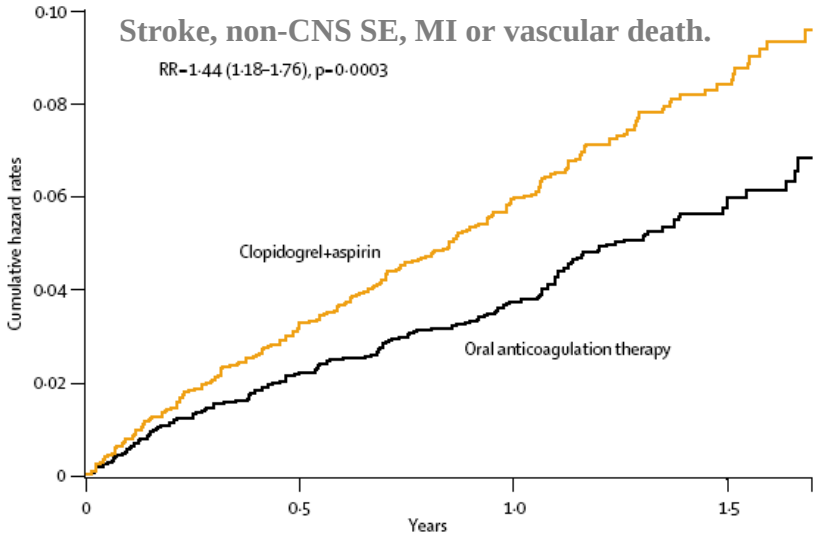
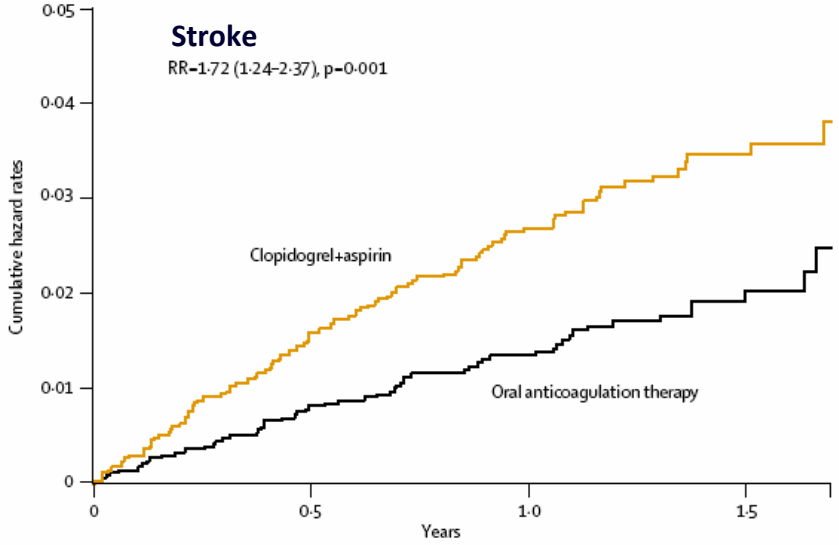
Clopidogrel +aspirin vs OAC for AF in the AF Clopidogrel Trial with Irbesartan for prevention of Vascular Events (ACTIVE W)

Lancet 2006; 367: 1903–12



Number at risk

Clopidogrel +aspirin	3335	3152	2389	927
Oral anticoagulation therapy	3371	3221	2458	924



Number at risk

Clopidogrel +aspirin	3335	3168	2419	941
Oral anticoagulation therapy	3371	3232	2466	930

Haemorrhage risk	**A+C** (% per year)	**OAC**	**A+C vs OAC** RR (95%CI)	**p**
Major (incl. severe & fatal)	2.42	2.21	1.10 (0.83-1.45)	0.53
Severe	1.70	1.57	1.09(0.78-1.52)	0.62
Fatal	0.17	0.26	0.62 (0.25-1.66)	0.36
Minor	13.58	11.45	1.23(1.09-1.39)	0.0009

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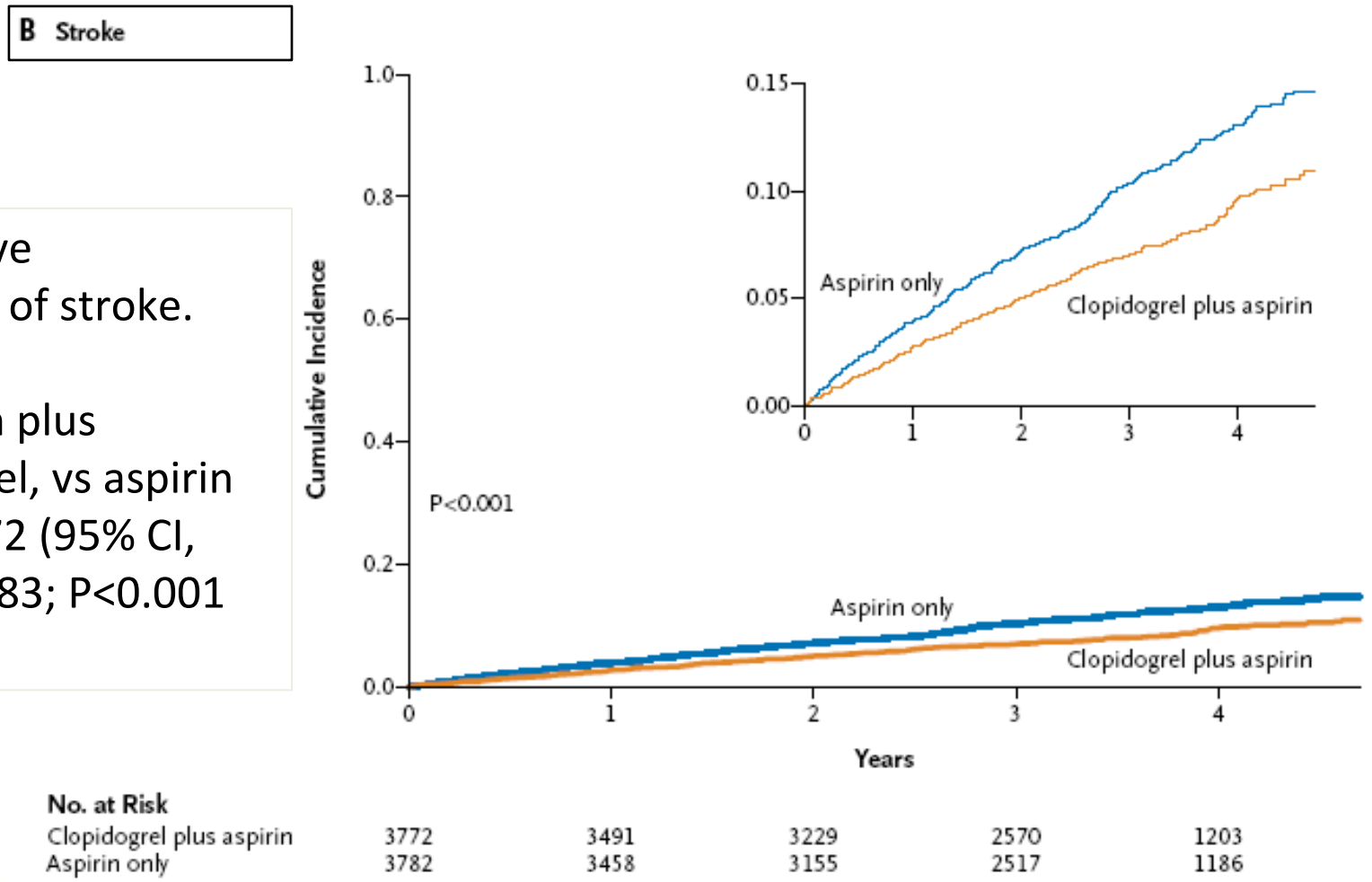
Effect of Clopidogrel Added to Aspirin in Patients with Atrial Fibrillation: ACTIVE-A

N Engl J Med 2009.



Cumulative incidence of stroke.

RR aspirin plus clopidogrel, vs aspirin alone, 0.72 (95% CI, 0.62 to 0.83; P<0.001

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Message Six

We have an excellent treatment Which is not Aspirin

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Message Seven

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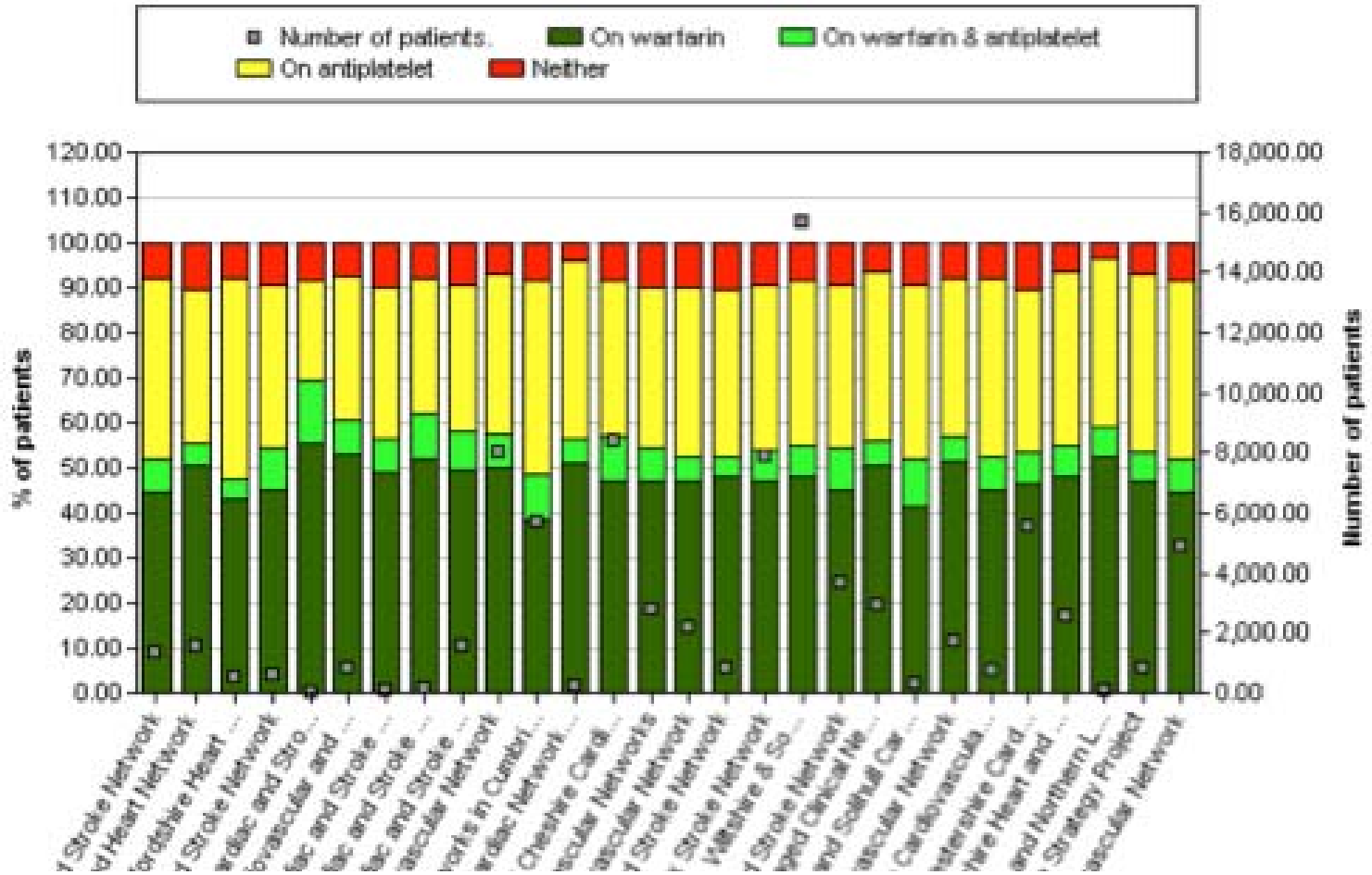

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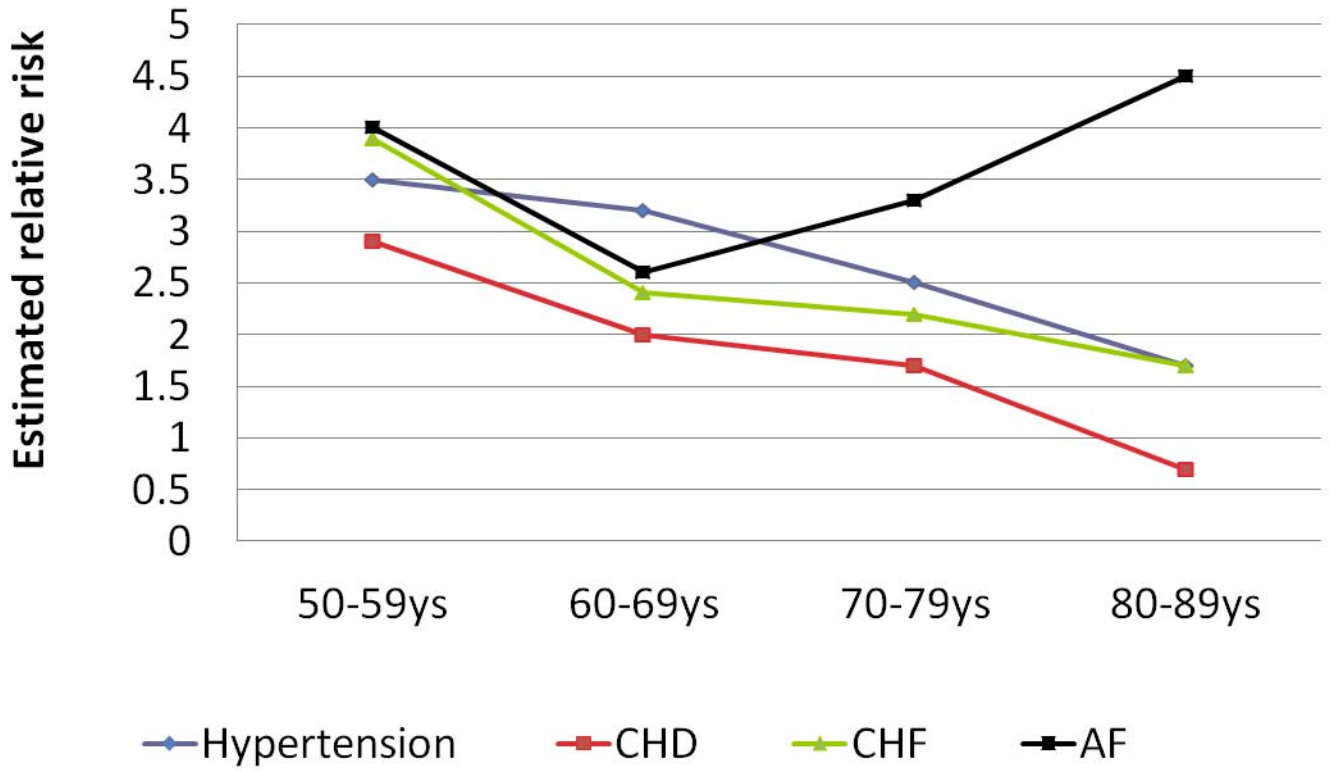
Estimated Relative Risk of Stroke for Persons With Given Cardiovascular Condition Compared to Those Without Condition by Age



Wolf P et al. *Stroke* 1991;22;983-988

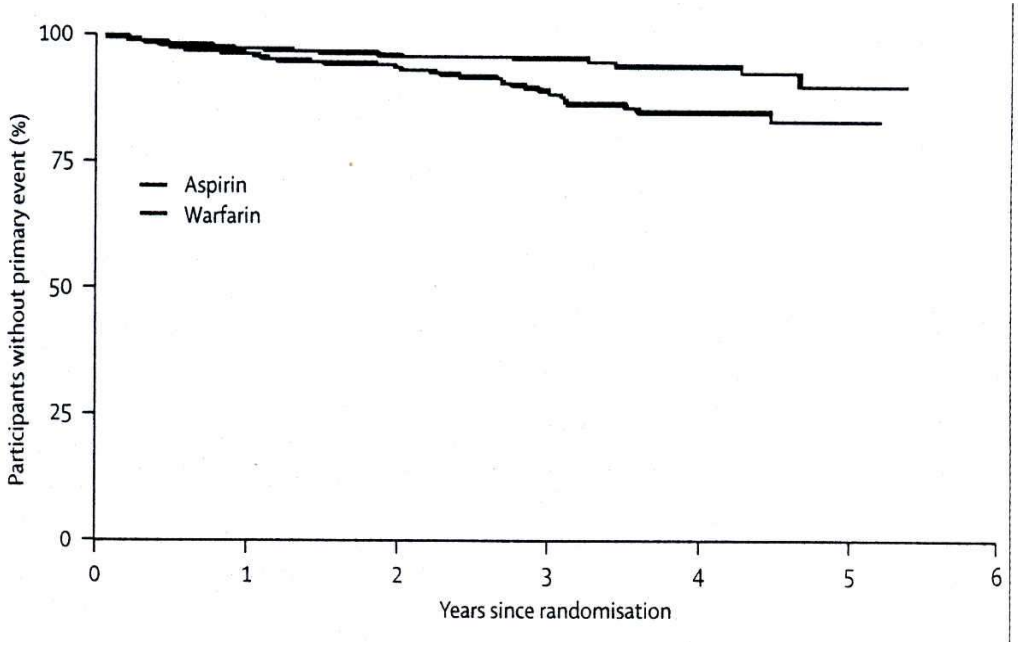
BAFTA - primary endpoints

- Primary endpoints
  - Fatal or non-fatal disabling stroke
  - Other intracranial haemorrhage
  - Arterial embolism

- Warfarin 1.8 % / year
  Aspirin 3.8 % / year

  Relative risk 0.48

  (95 % CI 0.28 – 0.8)



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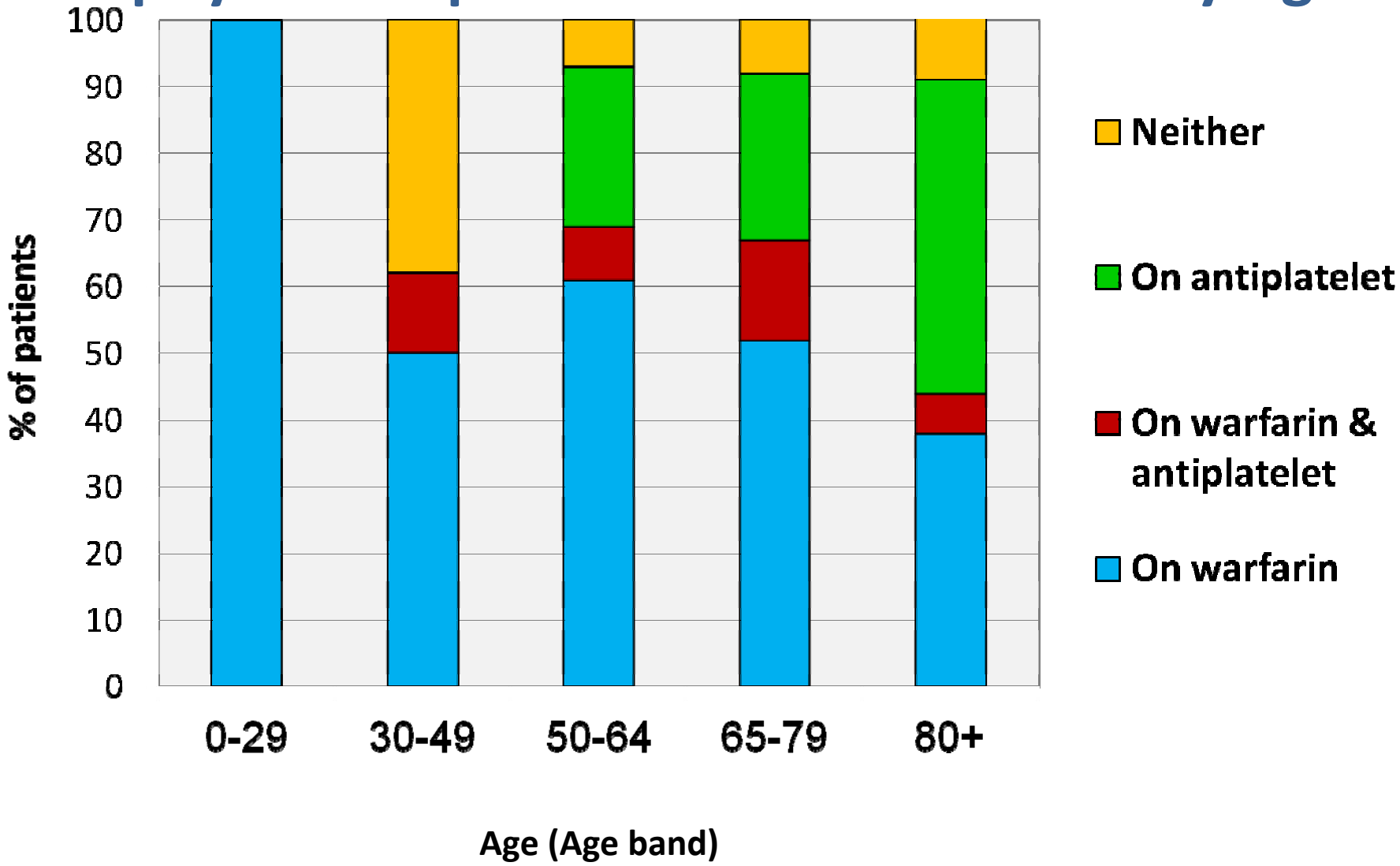
Prophylaxis of patients with CHADS2 >1 by Age



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Reasons for Enrolment in ACTIVE A

Relative risk factor for bleeding*	23%
Physician assessment that patient is inappropriate for VKA	50%
Patient Preference Only	26%

* Inability to comply with INR monitoring, predisposition to falling or head trauma, persistent BP > 160/100, previous serious bleeding on VKA, severe alcohol abuse < 2 years, peptic ulcer disease, thrombocytopenia, need for chronic NSAID

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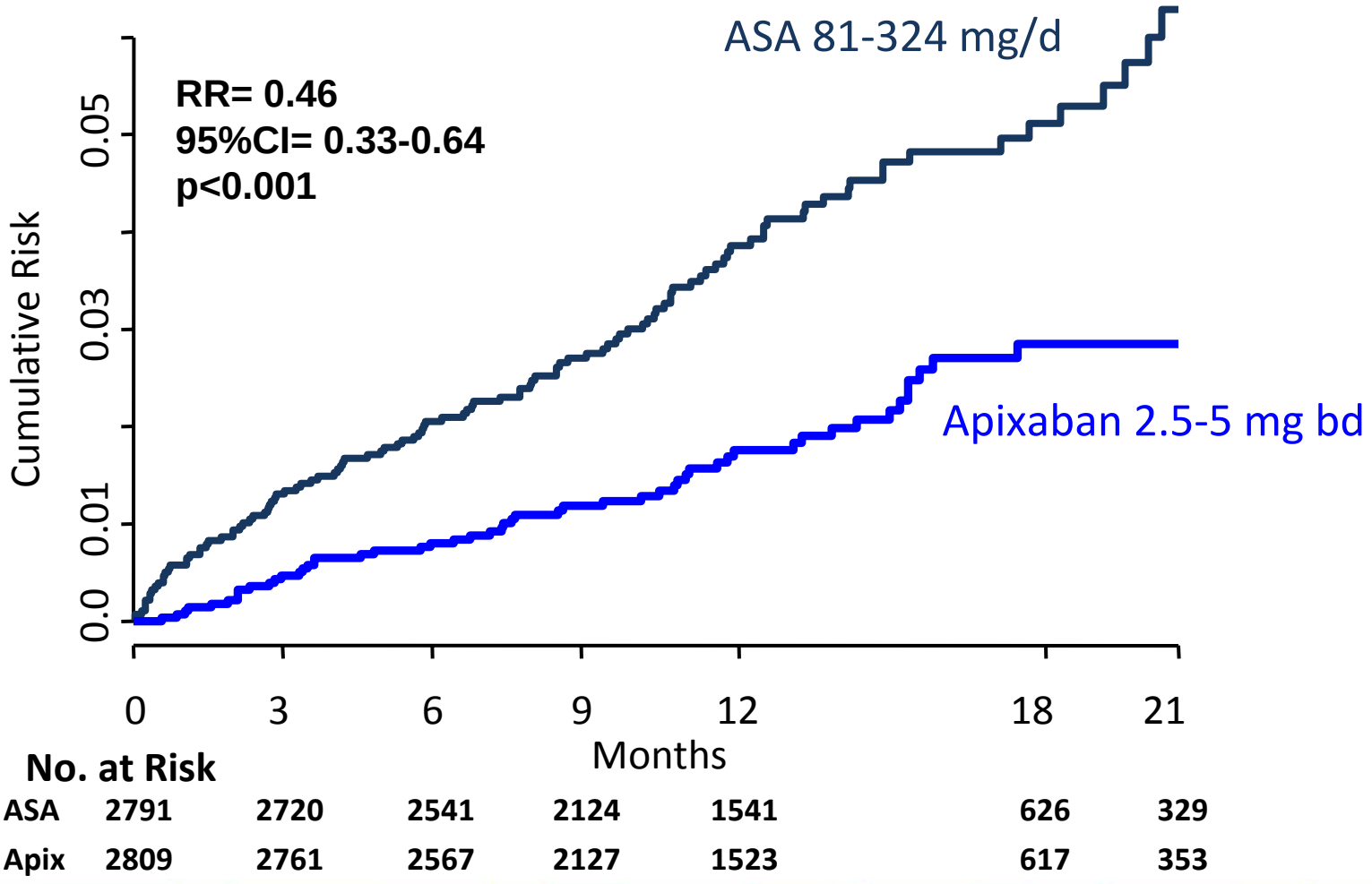
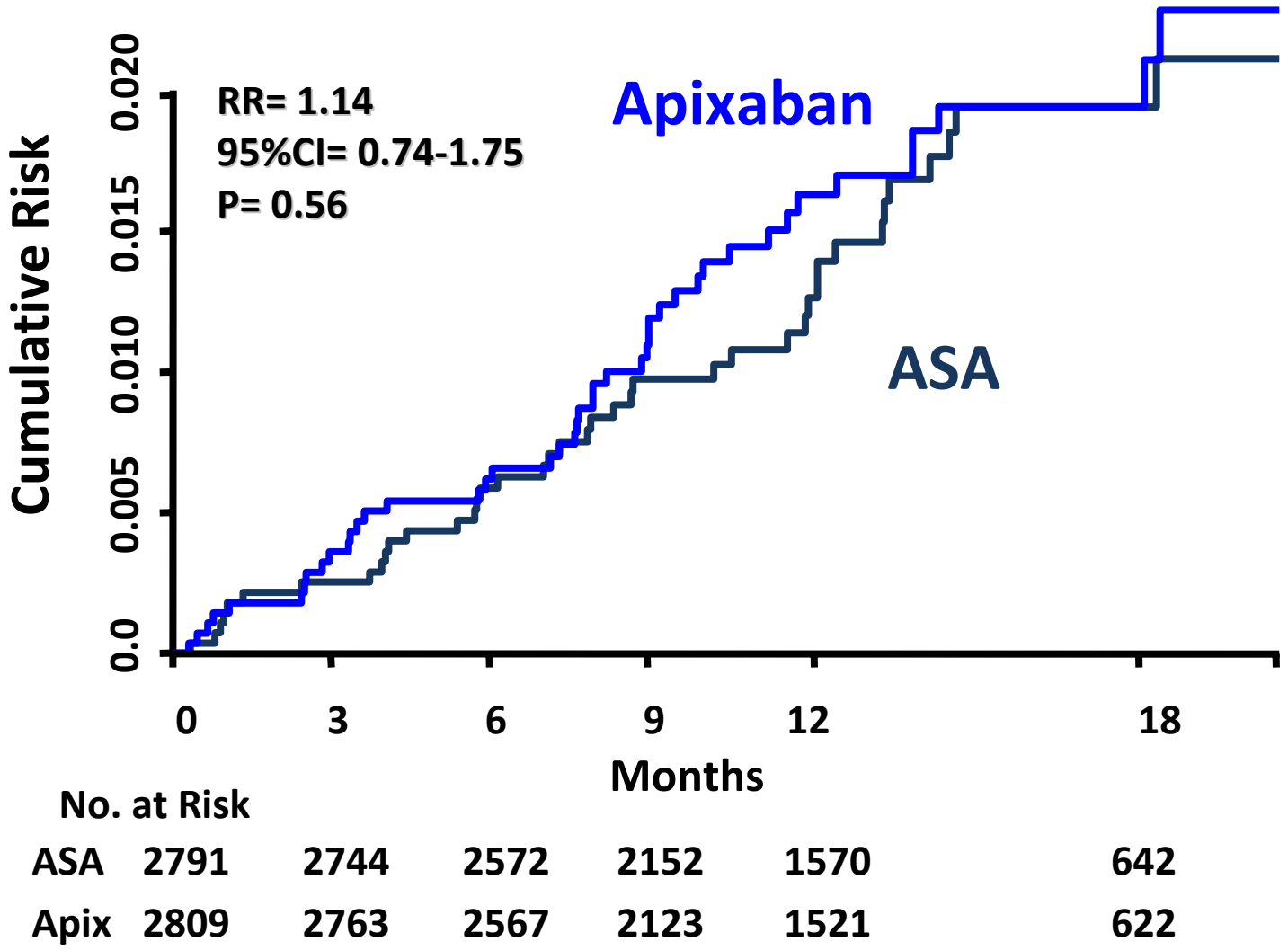
AVERROES: Stroke or SEE

5600 patients, 36 countries, 522 centres



AVERROES - Major Bleeding



No. at Risk						
ASA	2791	2744	2572	2152	1570	642
Apix	2809	2763	2567	2123	1521	622

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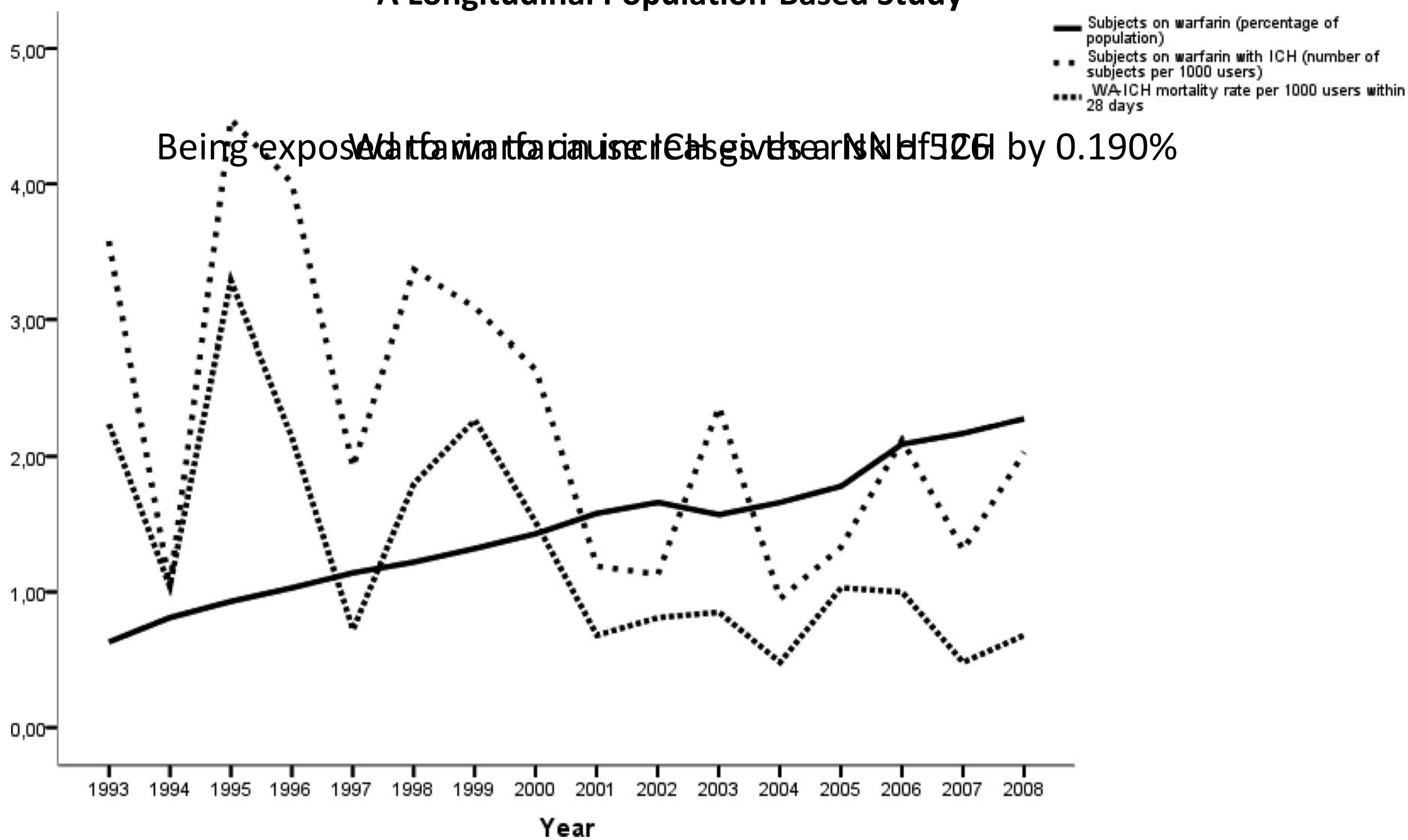
Effect of Increased Warfarin Use on Warfarin-Related Cerebral Hemorrhage

A Longitudinal Population-Based Study

Being exposed to warfarin increases the risk of ICH by 0.190%

Warfarin to cause ICH gives an NNH of 526



Stroke 2011, 42:2431-2435

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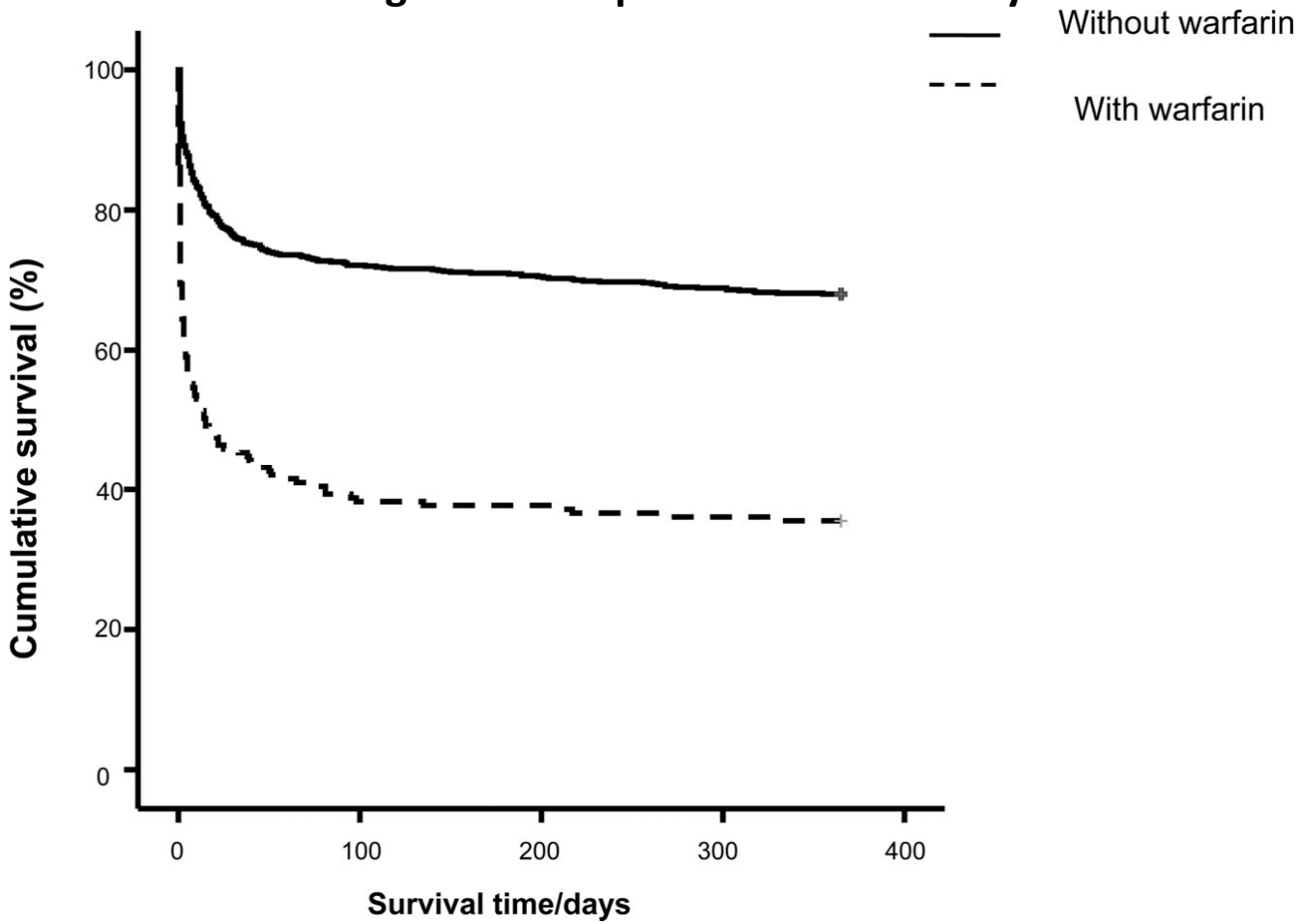
Effect of Increased Warfarin Use on Warfarin-Related Cerebral Hemorrhage

A Longitudinal Population-Based Study



Stroke 2011, 42:2431-2435

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Buckinghamshire Healthcare NHS Trust

NHS Buckinghamshire

Contraindications to The Initiation of Oral Anticoagulants & Anti-platelet Agents

<u>In Patients with Atrial Fibrillation in Primary Care</u>

As a patient's relative stroke & bleeding risk can change, it is essential that all AF patients are reviewed at LEAST annually for a re-assessment of their stroke versus bleeding risk & the anti-thrombotic treatment option of choice.

> Contraindications listed below apply to **BOTH** anti-platelet agents (e.g. aspirin, clopidogrel, dipyridamole) & **ALL** oral anticoagulants (e.g. warfarin, phenindione, dabigatran, rivaroxaban) except where indicated.

Absolute Contraindications

Known large oesophageal varices.

Significant thrombocytopenia (platelet count < 50 x 10⁹/L) - *refer to haematologist.*

Within 72 hours of major surgery with risk of severe bleeding - *defer & reassess risk postoperatively.*

Previously documented hypersensitivity to either the drug or excipients – *consider cardiology opinion.*

Acute clinically significant bleed - *defer & re-assess stroke versus bleeding risk within 1 month.*

Decompensated liver disease or deranged baseline clotting screen (INR>1.5) – *refer to Gastroenterology &Hepatology.* ***Contraindication applies to oral anticoagulants only***

Pregnancy or within 48 hours post partum - *seek urgent haematological advice.* ***Contraindication applies to oral anticoagulants only.***

Severe renal impairment [illegible] ***Contraindication applies to dabigatran only.***

Relative Contraindications

Previous history intracranial haemorrhage - *[illegible]*

Recent major extracranial bleed within the last 6 months where the cause has not been identified or treated – *[illegible]*

Recent documented peptic ulcer (PU) within last 3 months – *[illegible]*

Recent history recurrent iatrogenic falls in patient at higher bleeding risk.

A patient at higher bleeding risk is assessed by having 1 or more of the following risk factors:-

- *age > 65 years*
- *[illegible]*
- *[illegible]*
- *[illegible]*
- *[illegible]*
- *[illegible]*
- *[illegible]*

N.B. *[illegible]*

[illegible] cognitive impairment with poor medicines compliance & no access to carer support.

Chronic alcohol abuse – especially if associated with binge drinking.

> *N.B. Poor compliance with any oral anticoagulant agent will reduce benefits but may increase risks associated with use.*

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Message Seven

Then why don't we use it

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$CHADS_2$

	Score
Congestive heart failure/left ventricular systolic dysfunction	1
Hypertension	1
Age ≥75	**1**
Diabetes	1
Stroke / TIA	**2**

Lip G et al. *Chest* 2010; **137** (2): 263–272

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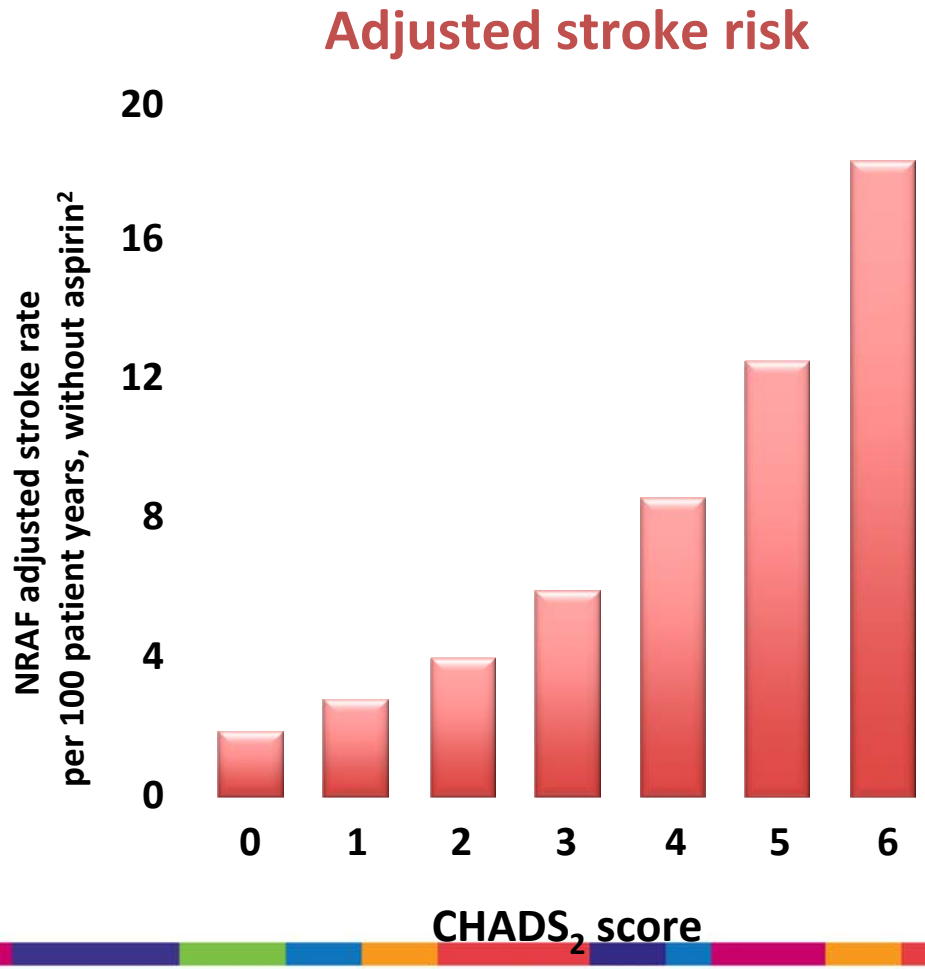
Stroke risk assessment with $CHADS_2$



1 Gage BF *et al. JAMA* 2001;285:2864–70.

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$CHADS_2$

Score	NNT	Adjusted annual Stroke Rate
0	**53**	**1.9**
1	**36**	**2.8**
2	**25**	**4.0**
3	**17**	**5.9**
4	**12**	**8.5**
5	**8**	**12.5**
6	**5**	**18.2**

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Validation of risk stratification schemes for predicting stroke and thromboembolism in patients with atrial fibrillation

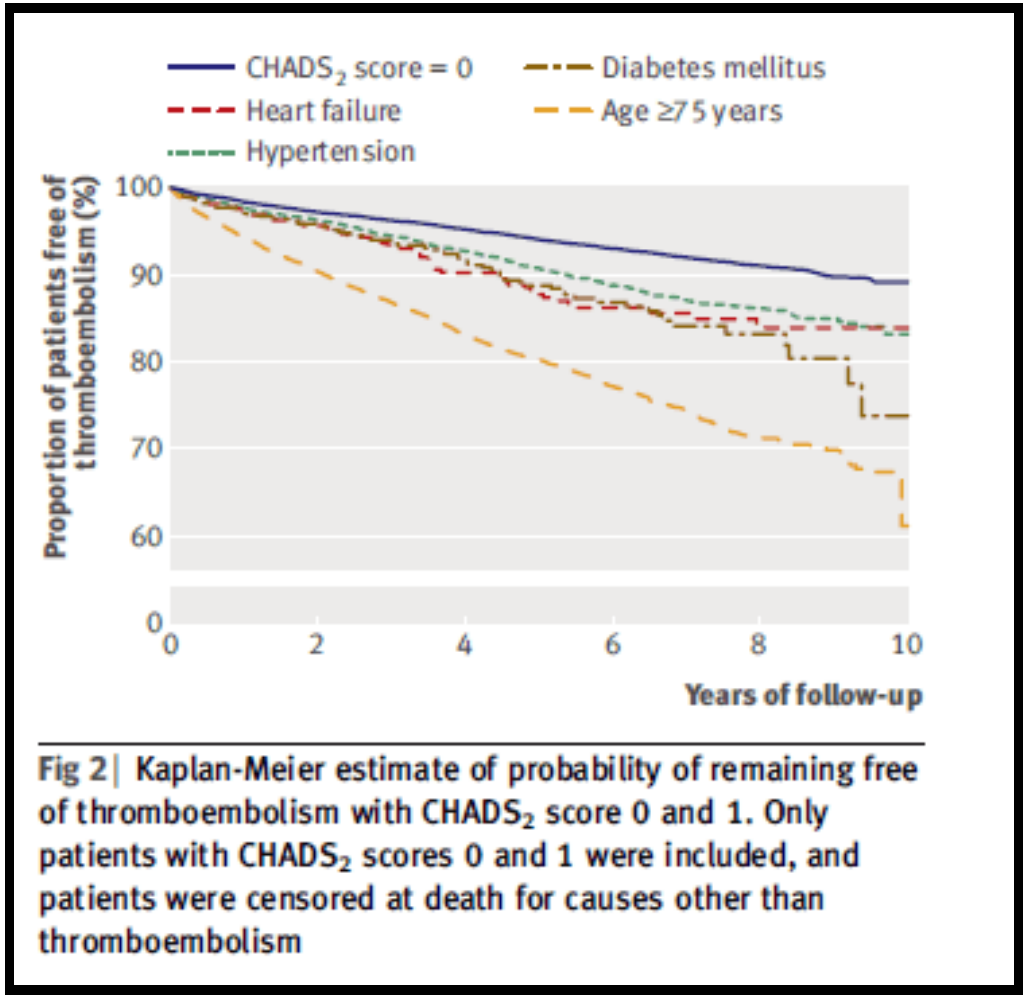

Fig 2 | Kaplan-Meier estimate of probability of remaining free of thromboembolism with $CHADS_2$ score 0 and 1. Only patients with $CHADS_2$ scores 0 and 1 were included, and patients were censored at death for causes other than thromboembolism

Olesen J et al. *BMJ* 2011;342:d124

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Comparison of Risk Stratification Schemes to Predict Thromboembolism in People With Nonvalvular Atrial Fibrillation

Table 3 Proportion of ATRIA Cohort Categorized by 5 Risk Stratification Schemes Used to Predict Atrial Fibrillation–Related Thromboembolism and Discriminatory Ability of Risk Schemes (c-Statistics)

	Risk for Thromboembolism (%)			c-Statistic	
	Low	Intermediate	High	All Patients	Subgroup*
AFI	13.1	24.7	62.3	0.56	0.61
SPAF	27.7	28.5	43.8	0.60	0.65
$CHADS_2$	18.8	61.2	20.1	0.58	0.67
Framingham	37.1	46.6	16.4	0.62	0.69
7th ACCP	11.7	7.9	80.4	0.56	0.60

*Subgroup of 5,588 patients not on warfarin at baseline and with continuous follow-up off of warfarin for at least 12 months.
Abbreviations as in Table 1.

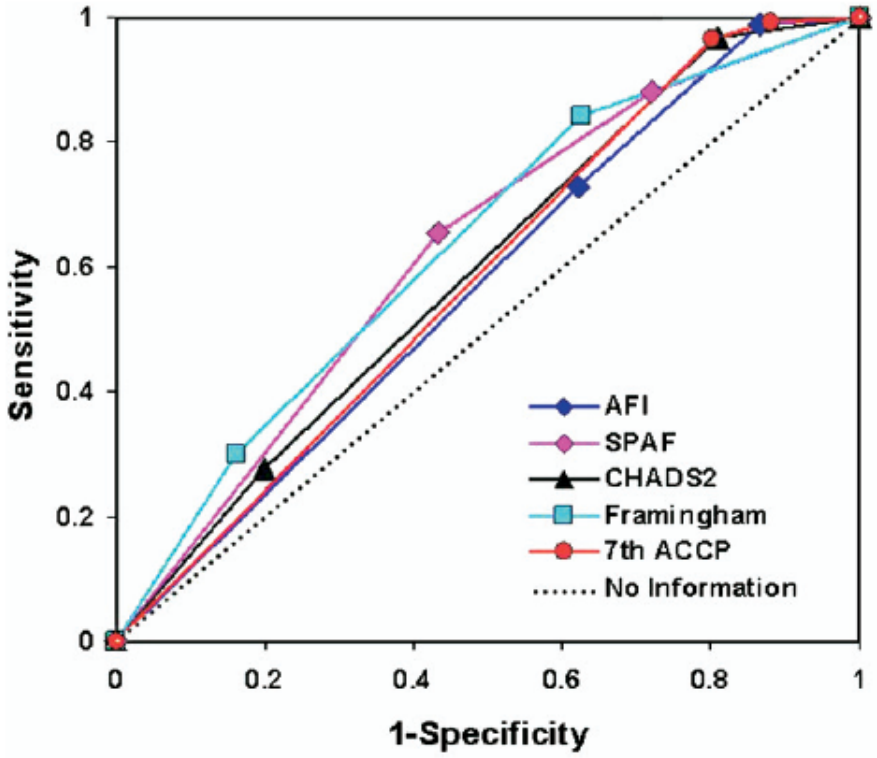

Figure 3 ROC Curves for 5 Risk Stratification Schemes Used to Predict AF-Related Thromboembolism

The **45° dotted line** represents the line of no information. ROC = receiver-operating characteristic; other abbreviations as in Figure 1.

Table 3 Proportion of ATRIA Cohort Categorized by 5 Risk Stratification Schemes Used to Predict Atrial Fibrillation–Related Thromboembolism and Discriminatory Ability of Risk Schemes (c-Statistics)

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Framingham	37.1	46.6	16.4	0.62	0.69
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*Subgroup of 5,588 patients not on warfarin at baseline and with continuous follow-up off of warfarin for at least 12 months.

Abbreviations as in Table 1.

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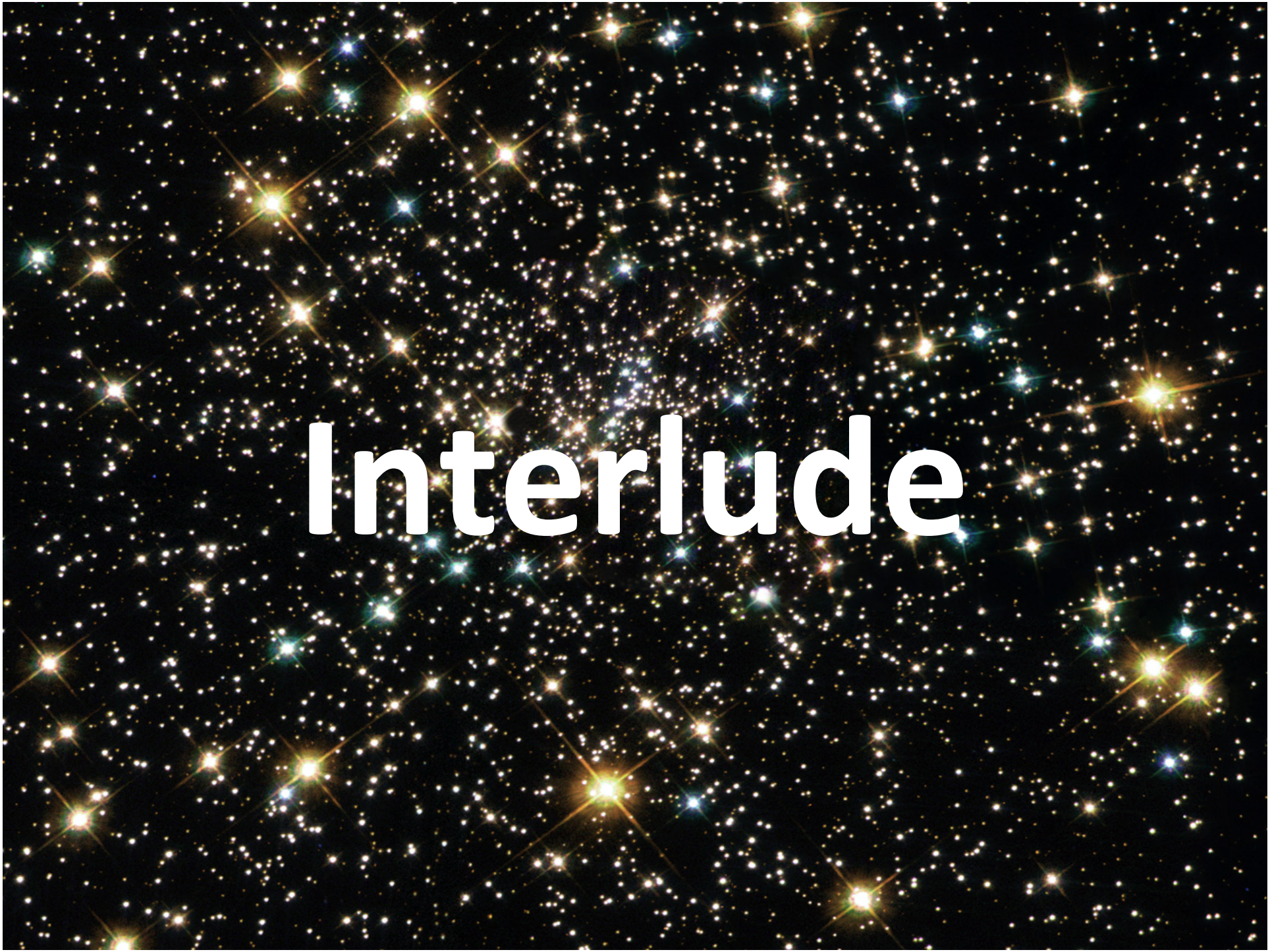
CHA_2DS_2VASc

	Score
Congestive heart failure/left ventricular systolic dysfunction	1
Hypertension	1
Age ≥75	**2**
Diabetes	1
Stroke / TIA	**2**
Vascular disease	1
Age 65–74	1
Sex (female)	1


Interlude

CHA_2DS_2VASc Discussed

Cardiologists:

E P I C

CHA_2DS_2VASc Discussed

Cardiologists:

C R A

CHA_2DS_2VASc Discussed

$C_{1\text{-}2}HA_{1\text{-}2}DS_2$

$+1$ **F**emale over 65

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CHA_2DS_2VASc

Validated: The Euro Heart Survey on Atrial Fibrillation

Score	Percent AF population	Adjusted TE rate
0	9.2	0%
1	15.1	0.7%
2	17	1.9%
3	18.7	4.7%
4	19.2	1.9%
5	8.7	3.2%
6	5.3	3.6%
7	2.3	10.1%
8	0.8	14.2%
9	0.01	100%

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Reclassification

$CHADS_2$	0	→	CHA_2DS_2VASc	0	38.6%
		→		1	29.7%
		→		≥ 2	21.7%
$CHADS_2$	1	→	CHA_2DS_2VASc	1	7.3%
		→		≥ 2	92.7%

Olesen J et al. *BMJ* 2011;342:d124

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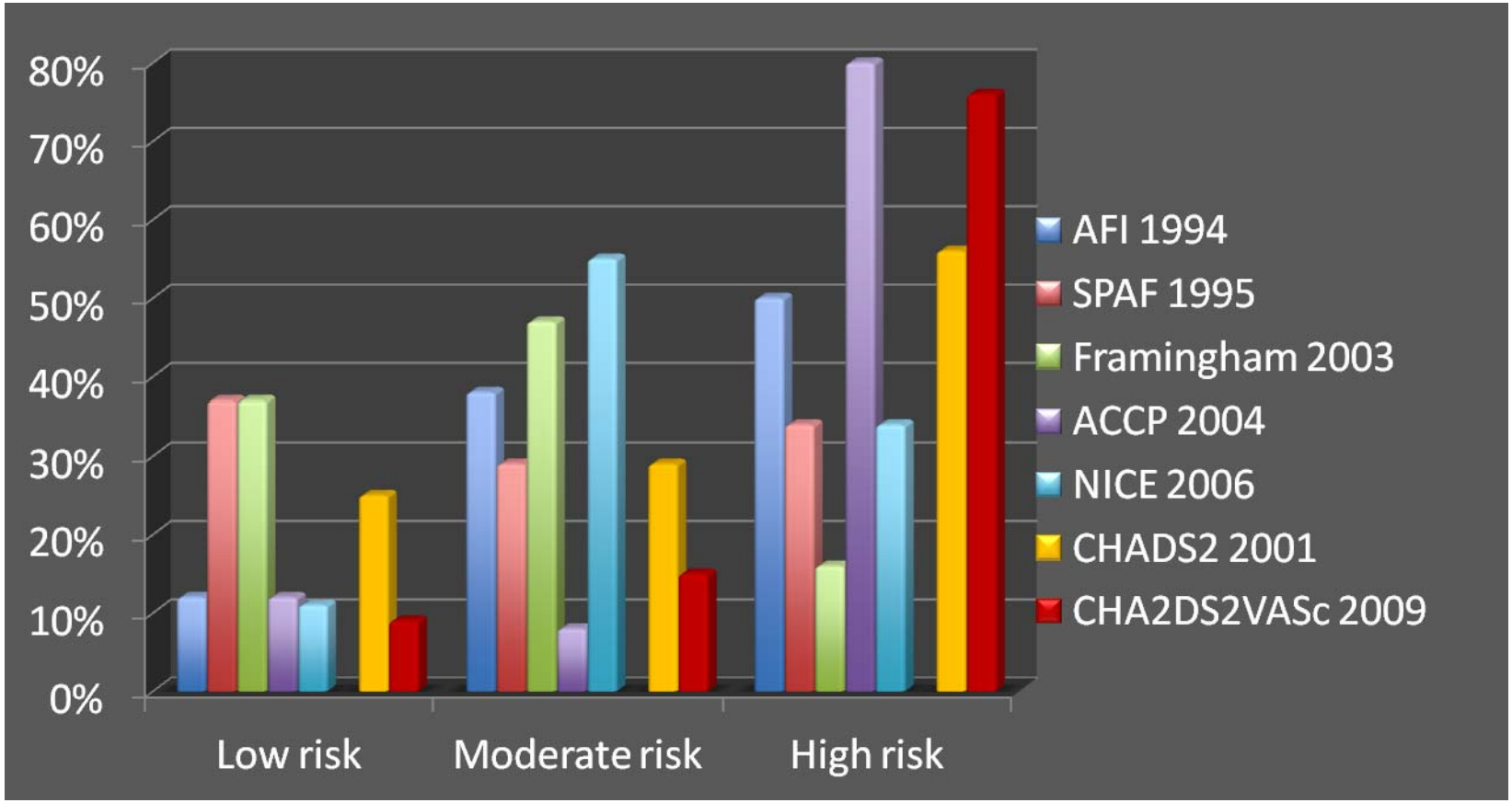
Comparison of patient distribution according to risk categories of selected AF risk stratification schema



High risk: $CHADS_2 \geq 2$, $CHA_2DS_2VASc \geq 2$

Moderate risk: $CHADS_2$ and $CHA_2DS_2VASc = 1$

Adapted from Stroke Risk in Atrial Fibrillation Working Group. *Stroke* 2008; 39: 1901-1910

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C statistics based on Cox regression models in a large real world cohort with long-term follow up based on categorisation of patients into risk groups

	1 year	5 year	10 year
$CHADS_2$	0.722	0.796	0.812
CHA_2DS_2VASc	0.850	0.880	0.888

Confidence intervals did not overlap between $CHADS_2$ and CHA_2DS_2VASc

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Guidance on **R**isk **A**ssessment and **S**troke **P**revention for **A**trial **F**ibrillation: **GRASP-AF**

Tools to support data collection and analysis for GRASP AF

Acknowledgement:
•Keith Tyndall, Leeds AF clinic
•James Barrett, Primis+
•West-Yorkshire Cardiovascular Network

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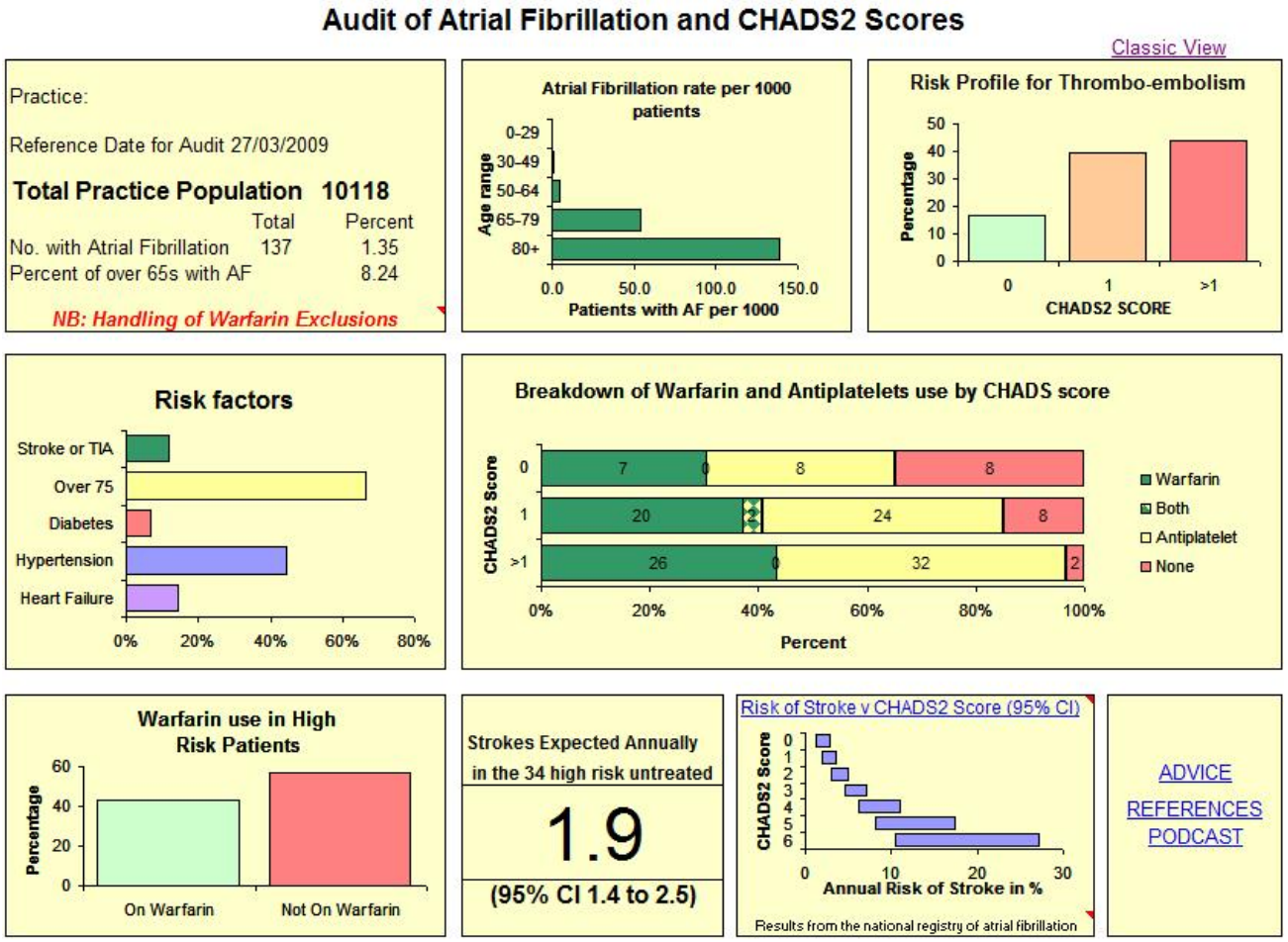
CHART GRASP-AF: Dashboard



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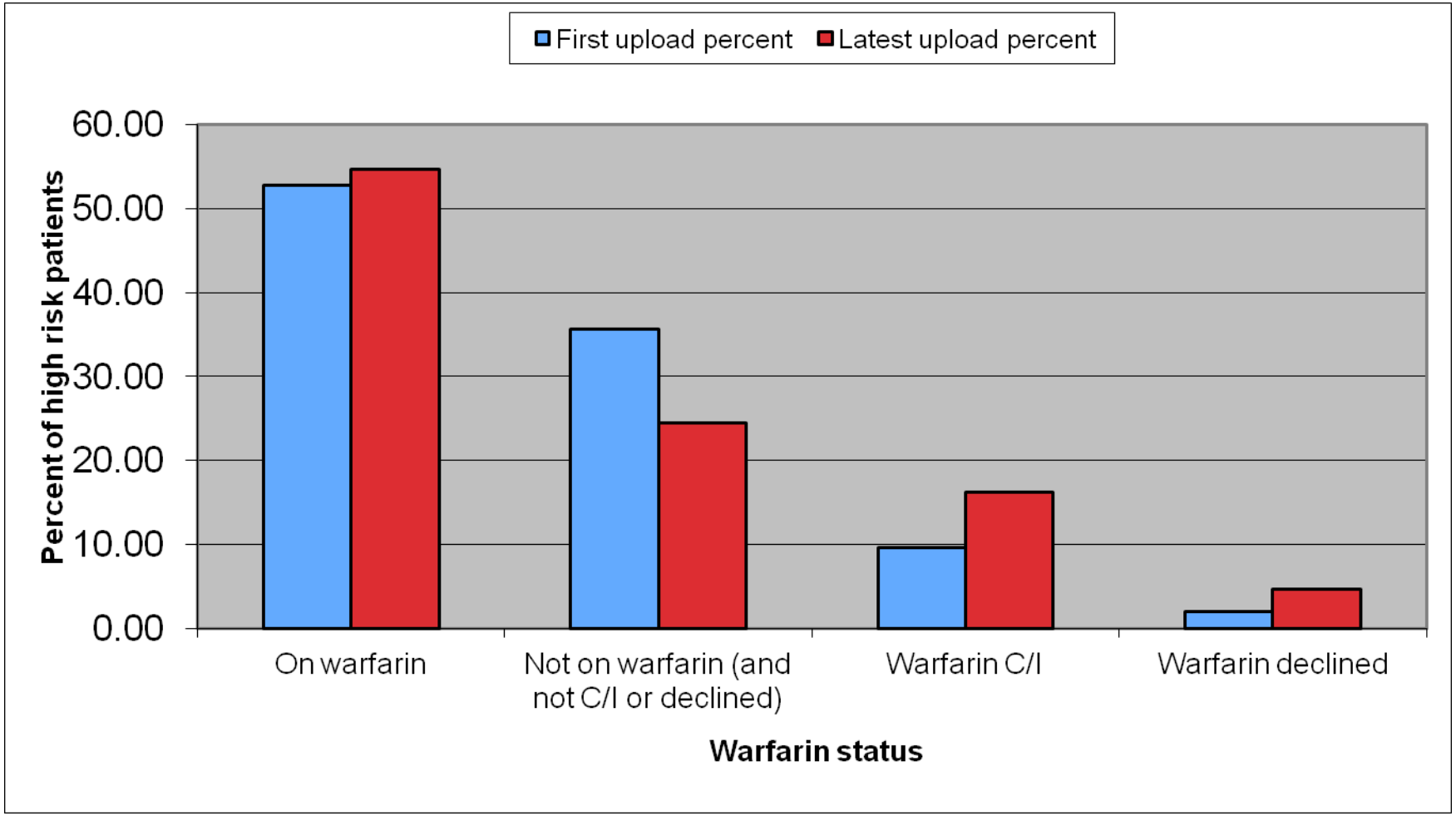
GRASP data- warfarin prescribing



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Audit of Atrial Fibrillation and CHA2DS2-VASc Scores

Classic View

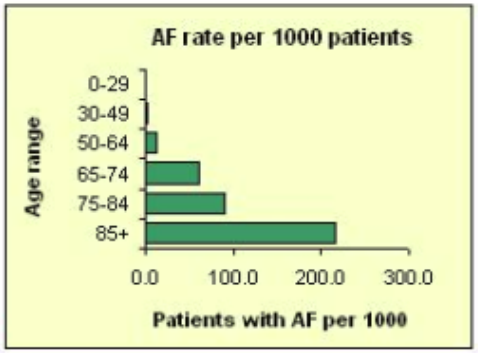
Select Risk Score CHA2DS2-VASc

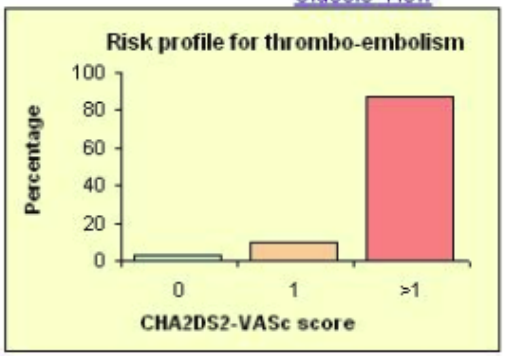
Practice:

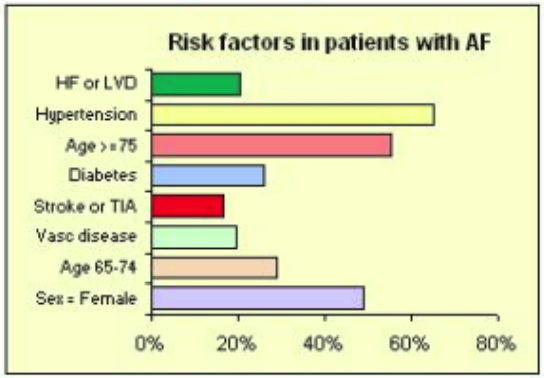
Total Practice Population 11286

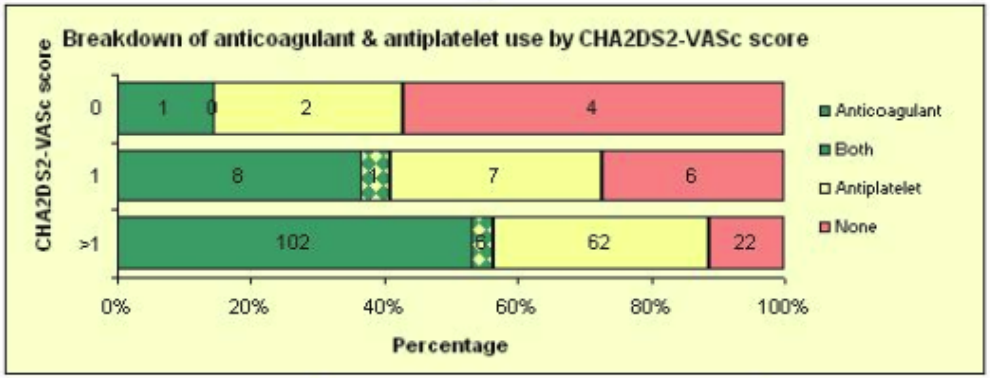
	Total	Percent
No. with Atrial Fibrillation	221	1.96
Percent of >= 65 yrs with AF		9.26

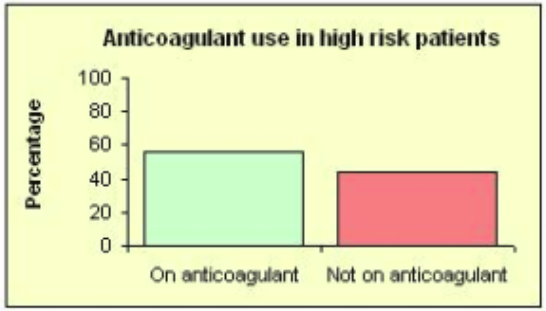
NB: Handling of anticoagulant exclusions





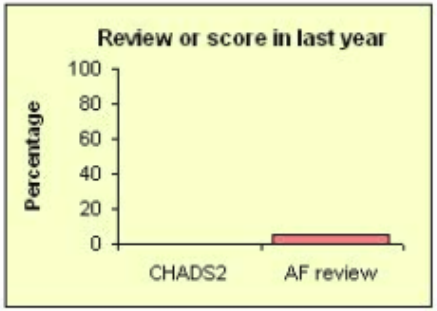






Strokes expected annually in the 84 high risk untreated

3.8



ADVICE
REFERENCES
PODCAST

This dashboard was developed by PRIMIS+ for use with CHART

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Message Eight

We know who to give it to

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Message Nine

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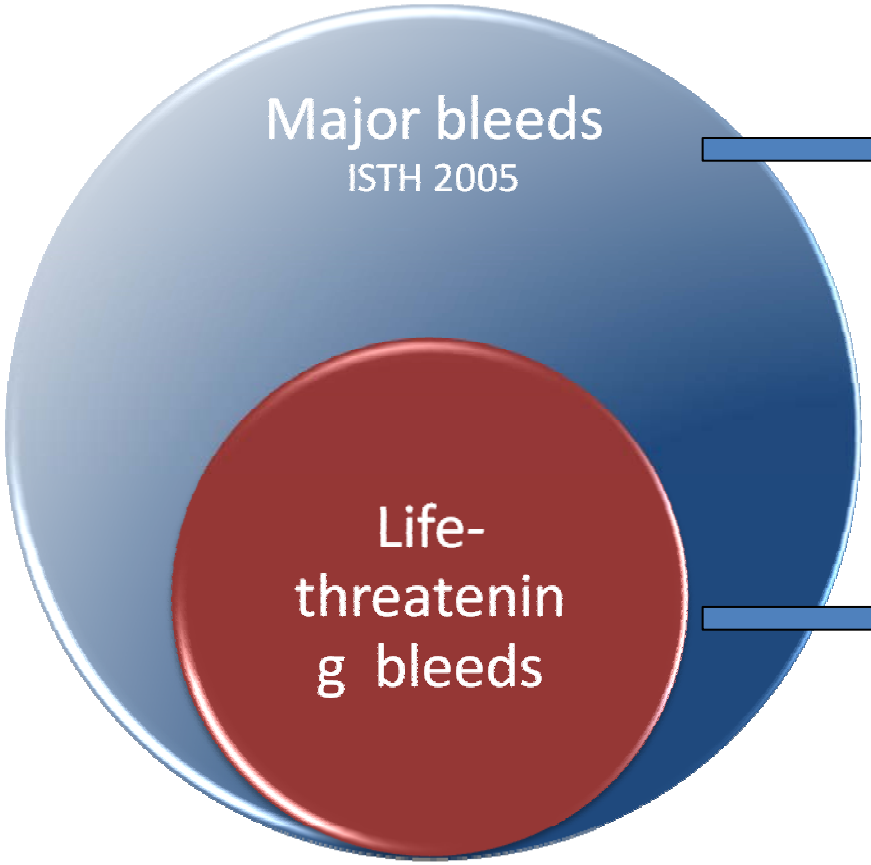
Balancing risk vs. Harm
Do all major haemorrhages matter?



- Major haemorrhage
- Hb drop of ≥ 2g/dl
- Transfusion of ≥ 2 U
- Symptomatic bleeding in critical organ

- Fatal haemorrhage
- Intracranial haemorrhage
- Hb drop of ≥ 5g/dl
- Transfusion of ≥ 4 U
- Inotropic agent support
- Surgery

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An Approach to Risk Assessment HAS-BLED

Letter	Clinical Characteristic	Points awarded
H	Hypertension	1
A	Abnormal Renal and Liver Function (1 point each)	1 or 2
S	Stroke	1
B	Bleeding	1
L	Liable INR	1
E	Elderly (age over 65 yrs)	1
D	Drugs and/or Alcohol (1 point each)	1 or 2
		Maximum 9

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An Approach to Risk Assessment Atria Risk Score

Clinical Characteristic		Points awarded
Anaemia		3
Severe Renal Failure		3
Age over 75 yrs		2
Prior Bleeding		1
Hypertension		1

Fang et al. JACC Vol. 58, No. 4, 2011 The ATRIA Hemorrhage Risk Prediction Score July 19, 2011:395–401

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Risk and Benefit

Bleeding Risk Score-ATRIA	Annualised Haemorrhage Risk	CHADSVASc	Annualised Stroke Risk
Low Risk (0-3)	0.76%	0	0%
		1	1.3%
Intermediate Risk (4)	2.62%	2	2.2%
		3	3.2%
		4	4%
High Risk (5-10)	5.76%	5 to 9	6.7-15.2%

Fang et al. JACC Vol. 58, No. 4, 2011 The ATRIA Hemorrhage Risk Prediction Score July 19, 2011:395–401

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What the papers say

Daily Mail

Mail Online

No, it's not a jellyfish... it's a to look after your heart

By Oona Mashta

Last updated at 10:05 PM on 23rd January 2010

Mail Online

No, it's not a jellyfish... it's a Watchman to look after your heart

By Oona Mashta

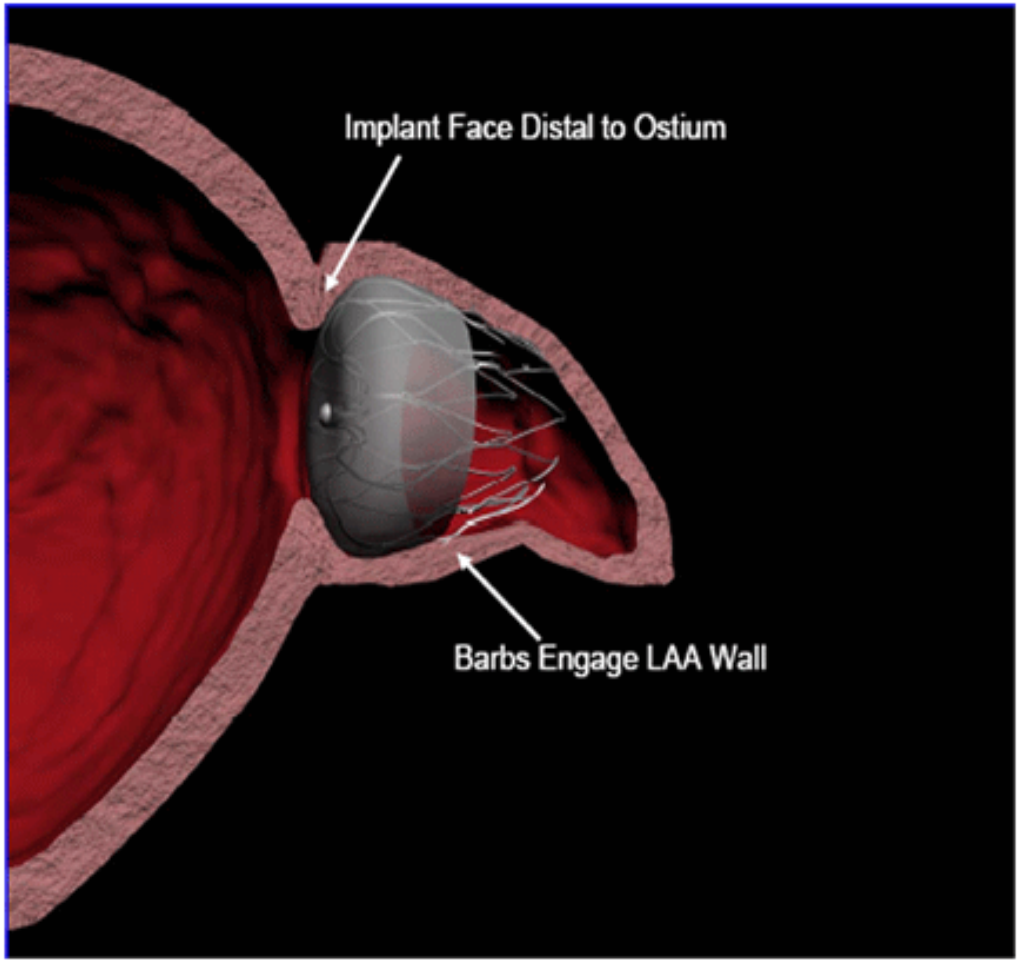
Last updated at 10:05 PM on 23rd January 2010

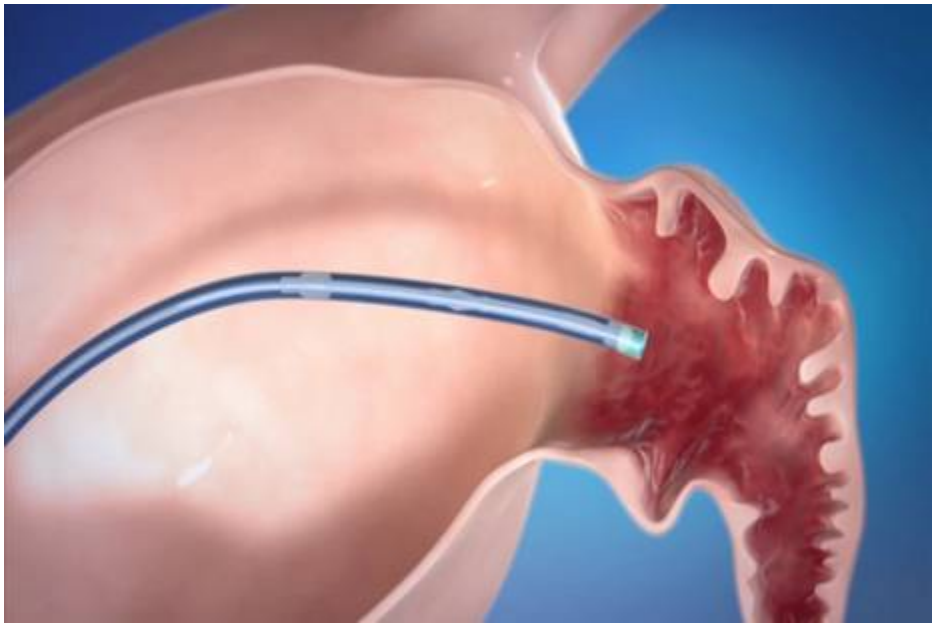
A new implant is set to transform the treatment of atrial fibrillation (AF), the debilitating heart rhythm disturbance that affects 500,000 people in the UK - including Tony Blair.

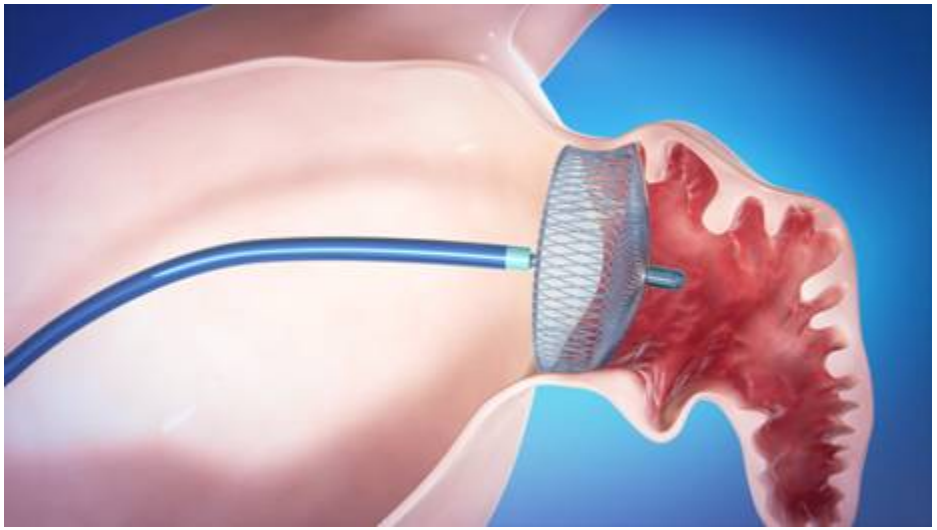
Dubbed the Watchman, the filter-like device, which looks like a jellyfish, protects sufferers from harmful blood clots that can form in the heart as a result of the condition.

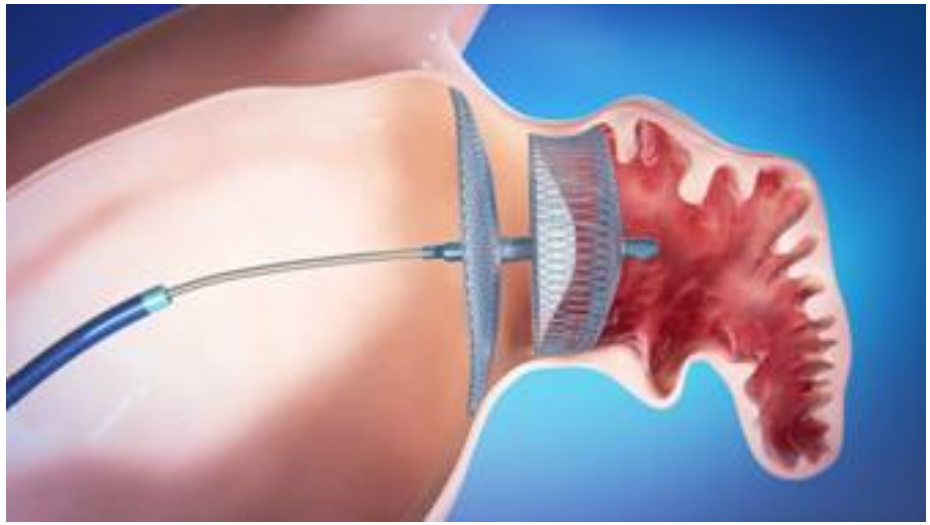
Traditionally, patients have taken large doses of the anticoagulant (blood-thinning drug) warfarin to prevent clots, which can enter the vascular system and cause a stroke.

WATCHMAN® LAA System









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Message Nine

We have guides on where we should be cautious

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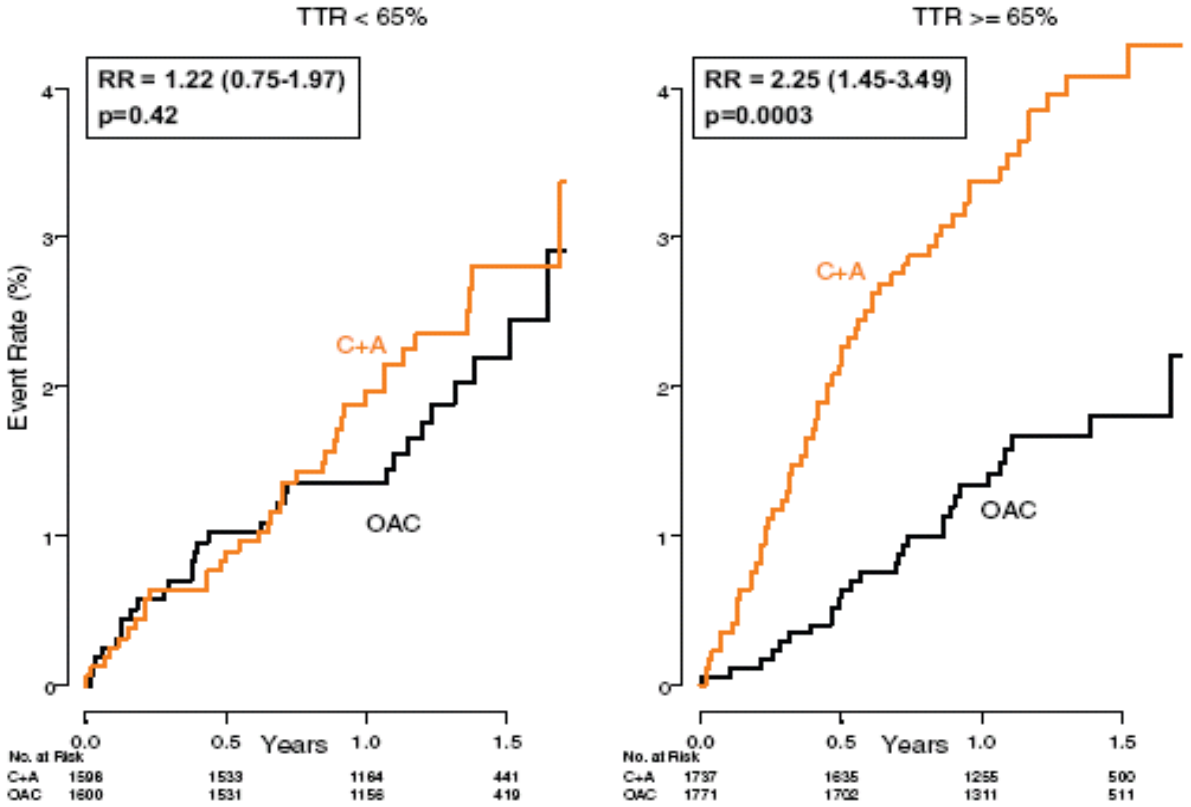
Message Ten

ACTIVE W Study – Risk of stroke in relation to time in therapeutic range



NEJM 2008;118:2029

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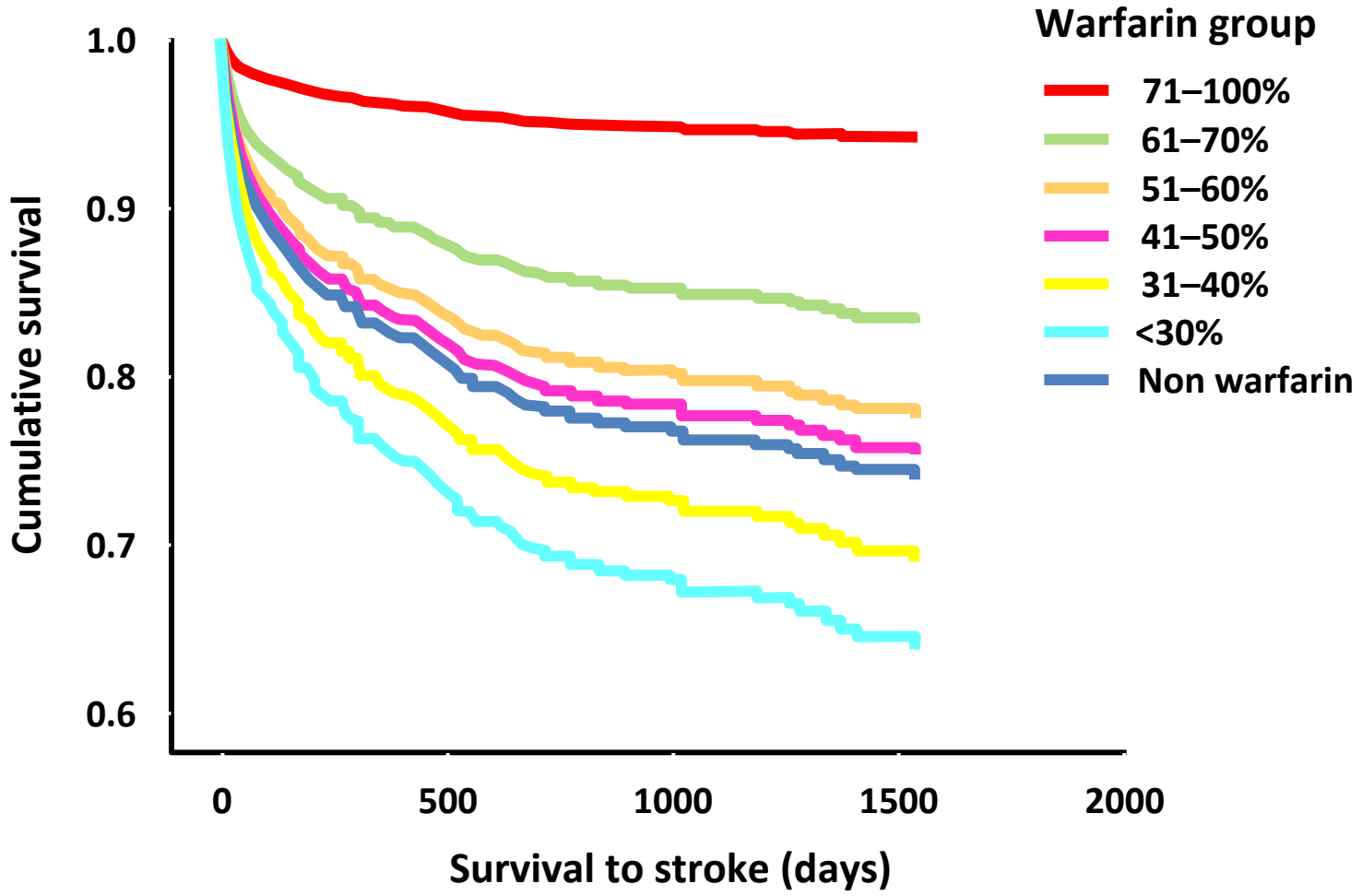
Time in therapeutic range (TTR) matters



Morgan CL *et al. Thrombosis Research* 2009;124:37–41.

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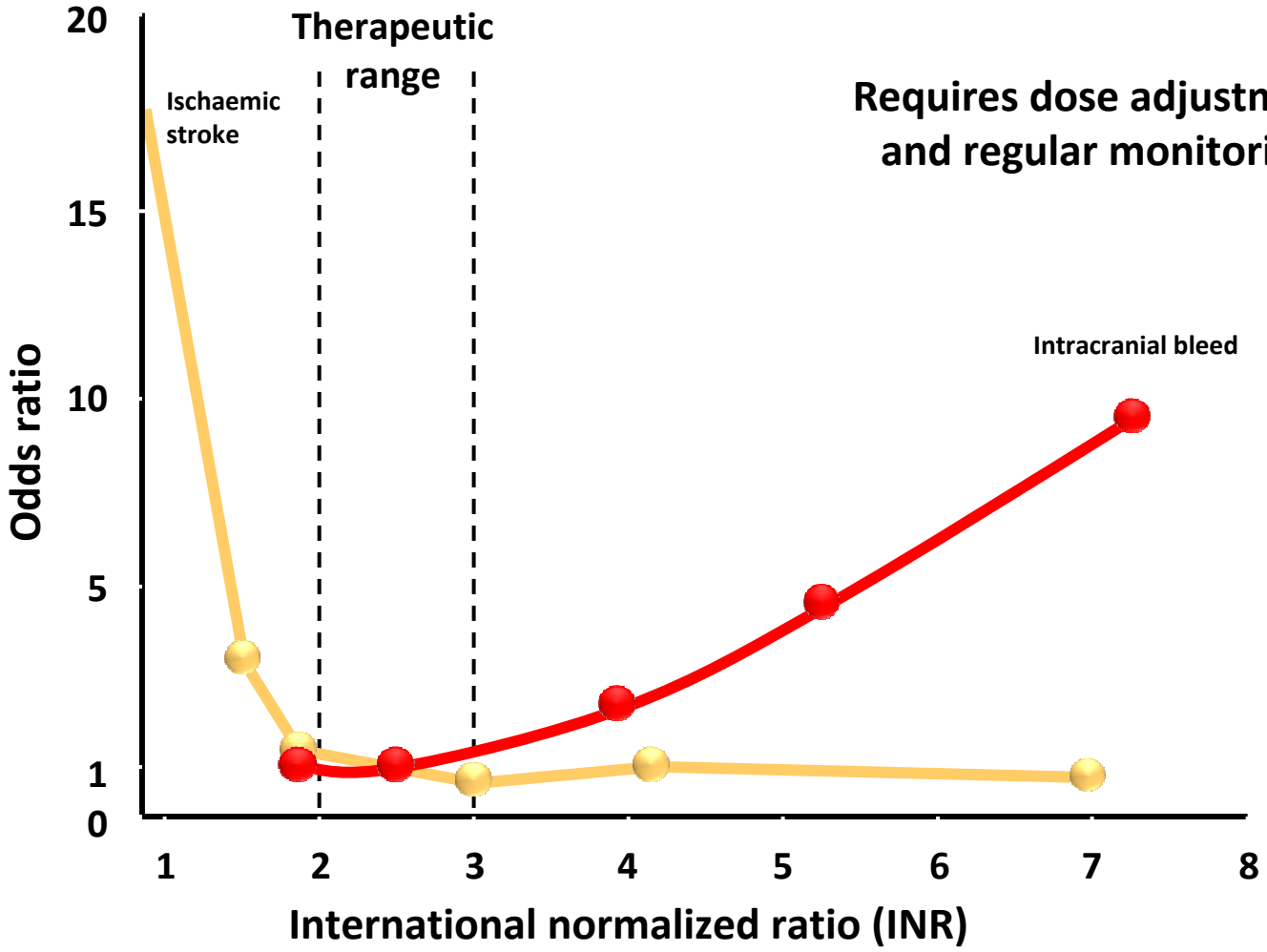
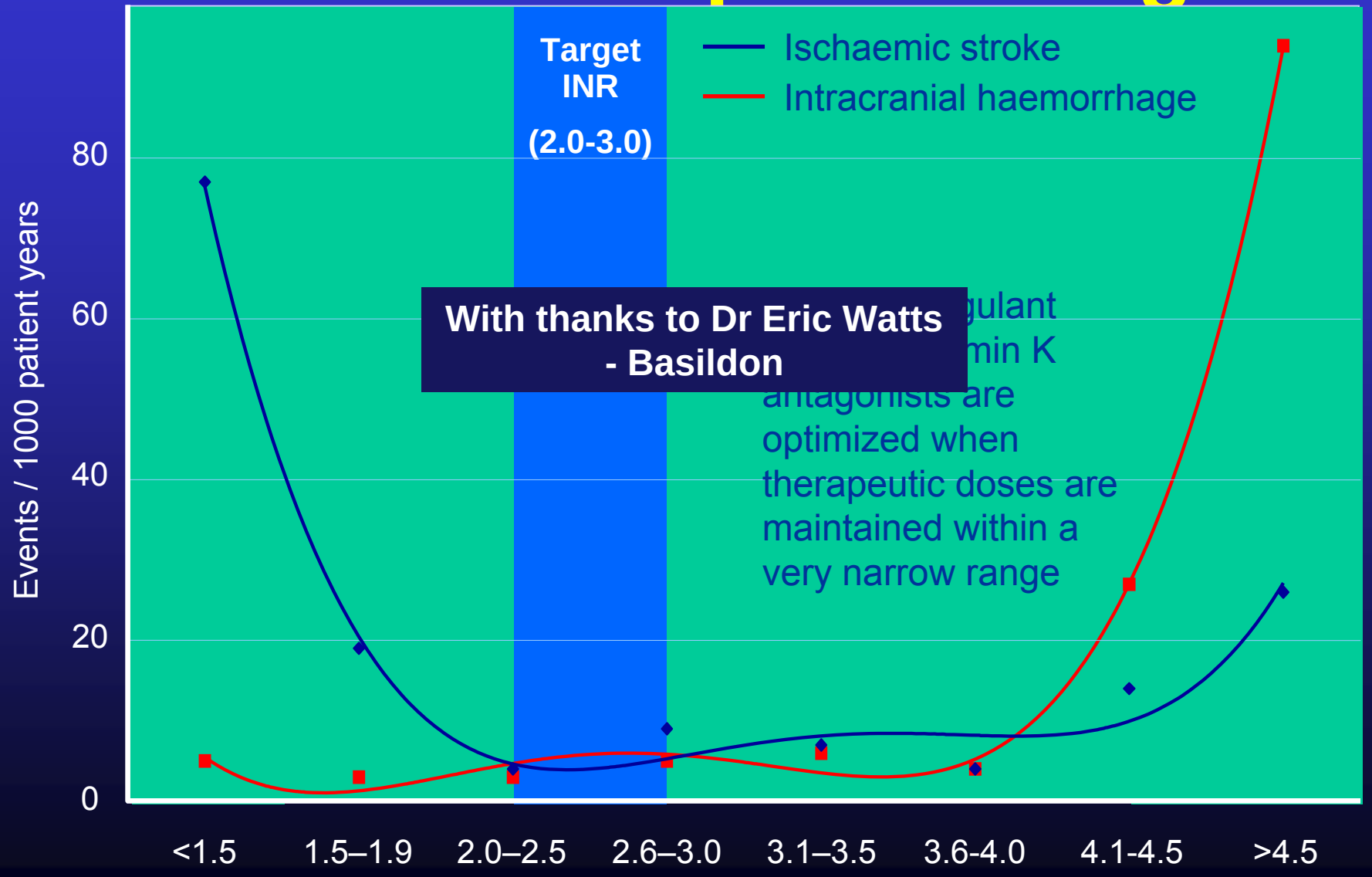
Warfarin and its therapeutic window



ACC/AHA/ESC guidelines: Fuster V *et al. Circulation* 2006;114:e257–e354.

Narrow therapeutic range



1. Hylek EM, et al. *N Eng J Med* 2003; 349:1019-1026.

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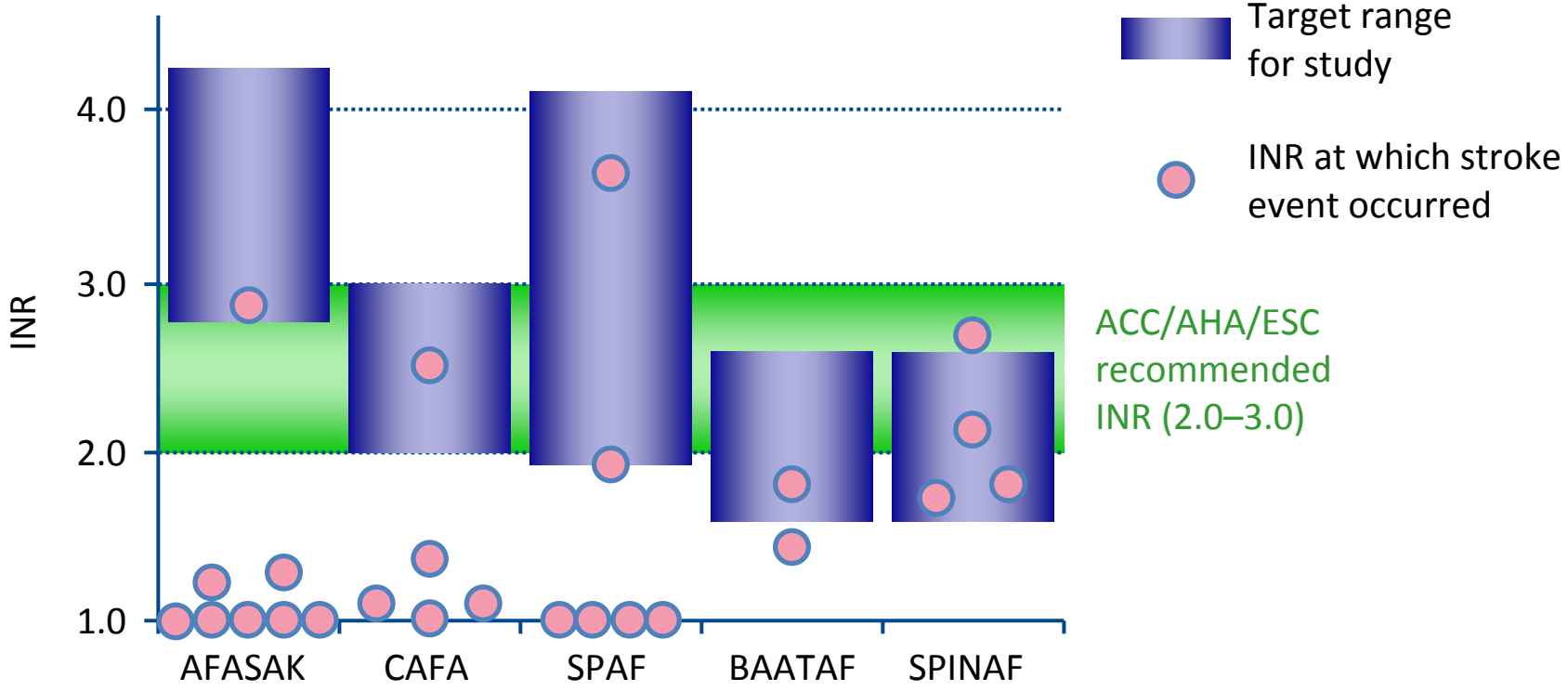
Most strokes occurred in patients who were under-anticoagulated

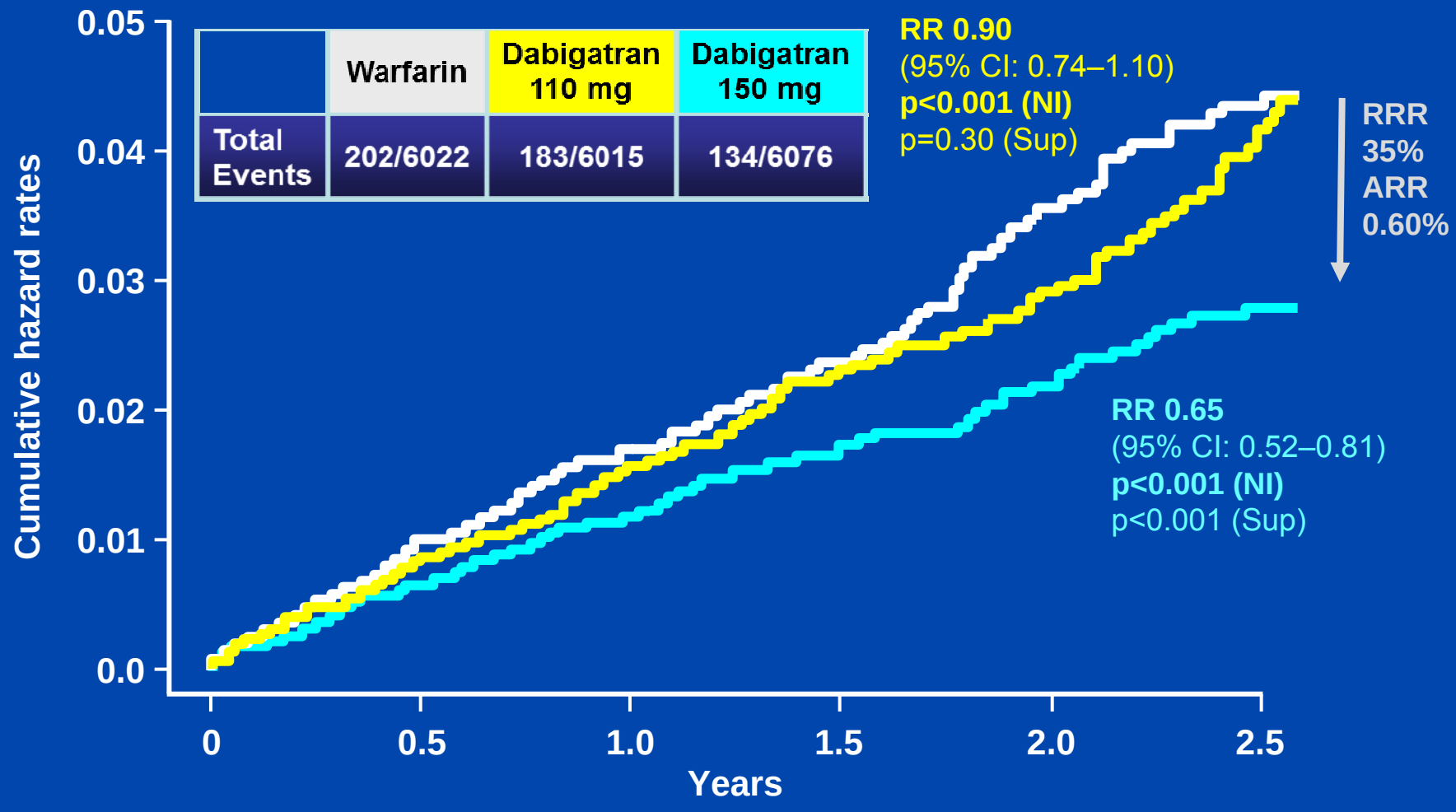
Association of stroke events with intensity of anticoagulation for patients with AF treated with warfarin in major randomized trials



ACC = American College of Cardiology; AHA = American Heart Association; ESC = European Society of Cardiology; INR = international normalized ratio

Levi M et al. Semin Thromb Haemost 2009;35:527–42

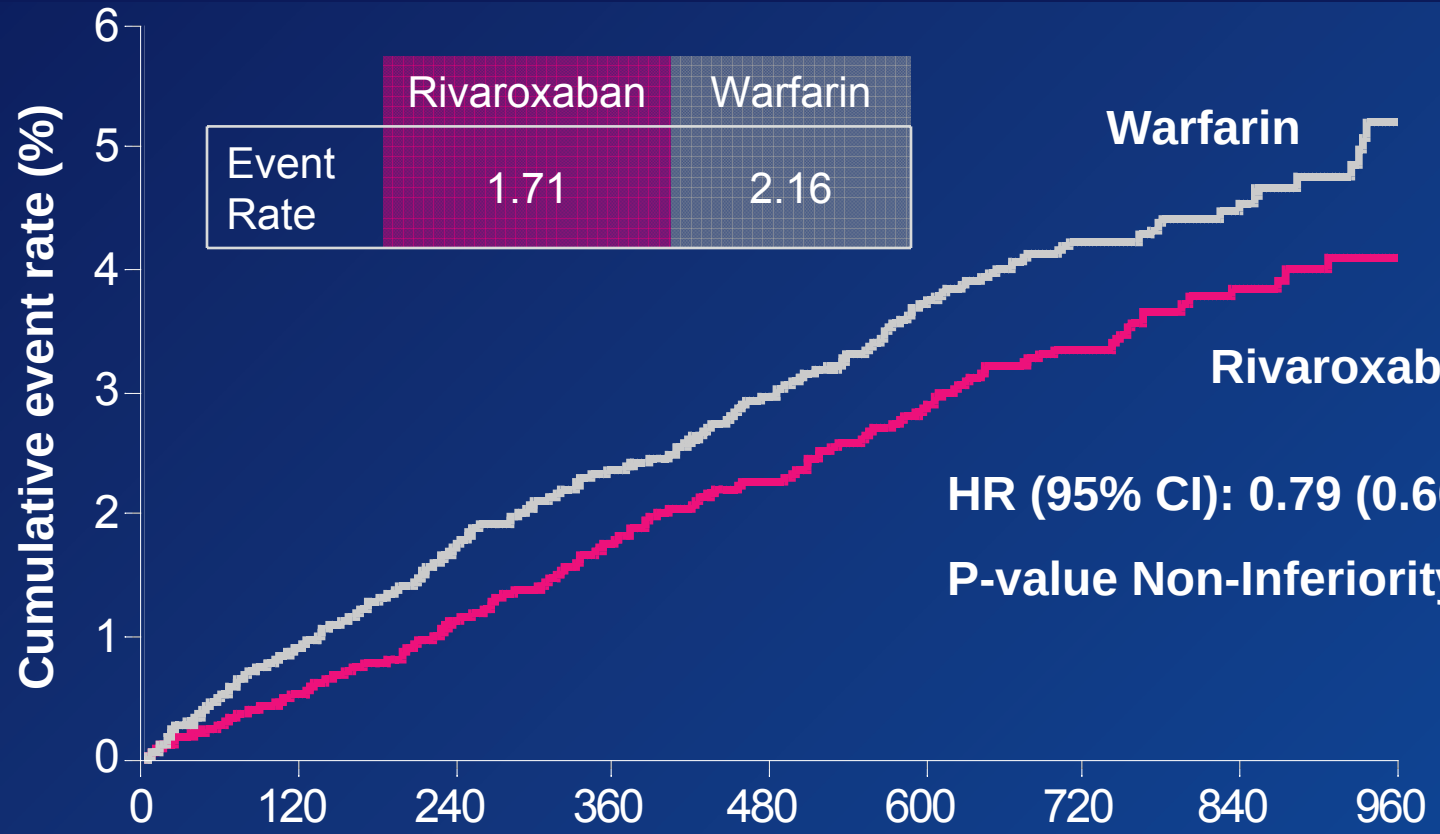
How does Pradaxa® compare to warfarin?
Time to first stroke / SSE



ARR, absolute risk reduction; RR, relative risk; CI, confidence interval; NI, non-inferior; Sup, superior

Connolly SJ *et al. N Engl J Med* 2009;361:1139–1151

Primary Efficacy Outcome
Stroke and non-CNS Embolism



No. at risk:

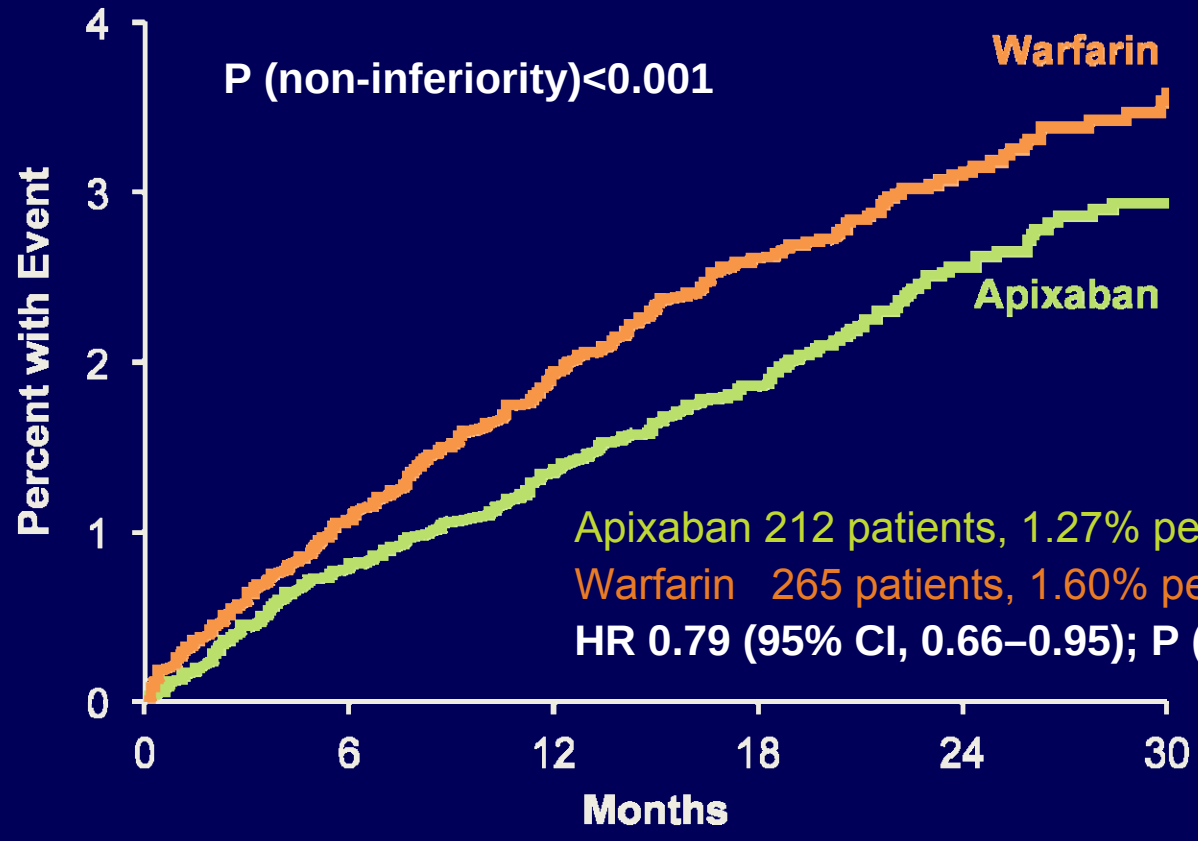
Rivaroxaban	6958	6211	5786	5468	4406	3407	2472	1496	634
Warfarin	7004	6327	5911	5542	4461	3478	2539	1538	655

Event Rates are per 100 patient-years
Based on Protocol Compliant on Treatment Population

ROCKET AF

Primary Outcome

Stroke (ischemic or hemorrhagic) or systemic embolism



No. at Risk						
Apixaban	9120	8726	8440	6051	3464	1754
Warfarin	9081	8620	8301	5972	3405	1768

Duke Clinical Research Institute

UCR UPPSALA CLINICAL RESEARCH CENTER

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Message Ten

Need to watch the quality of warfarin treatment

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Message Eleven

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Message Eleven

There is help out there

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Message Twelve

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Existing AF QOF Allocation

AF01 The practice can produce a register of patients with AF

AF04 The % of patients with AF diagnosed with ECG or specialist confirmed diagnosis

AF03 The % of patients with AF who are currently treated with anti-coagulation drug therapy or an anti-platelet therapy

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New AF QOF Allocation

AF01 The practice can produce a register of patients with AF

AF05 The percentage of patients with Atrial Fibrillation in whom stroke risk has been assessed using the CHADS2 risk stratification scoring system in the preceding 15 months

AF06 In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of 1, the percentage of patients who are currently treated with anti-coagulation drug therapy or an anti-platelet therapy

AF07 In those patients with Atrial Fibrillation in whom there is a record of a CHADS2 score of greater than 1, the percentage of patients who are currently treated with anti-coagulation drug therapy

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Message Twelve

The QoF has Changed

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Thank you for your attention

Question

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