

GRASP – AF

Guidance on Risk Assessment for Stroke Prevention in AF



GRASP – AF

An automated tool to identify patients at high risk of stroke in AF and not on adequate thromboprophylaxis, using existing general practice data.



■ Delivered by
PRIMIS+ and available
via your Cardiac
Network.



AF and the prevention of stroke

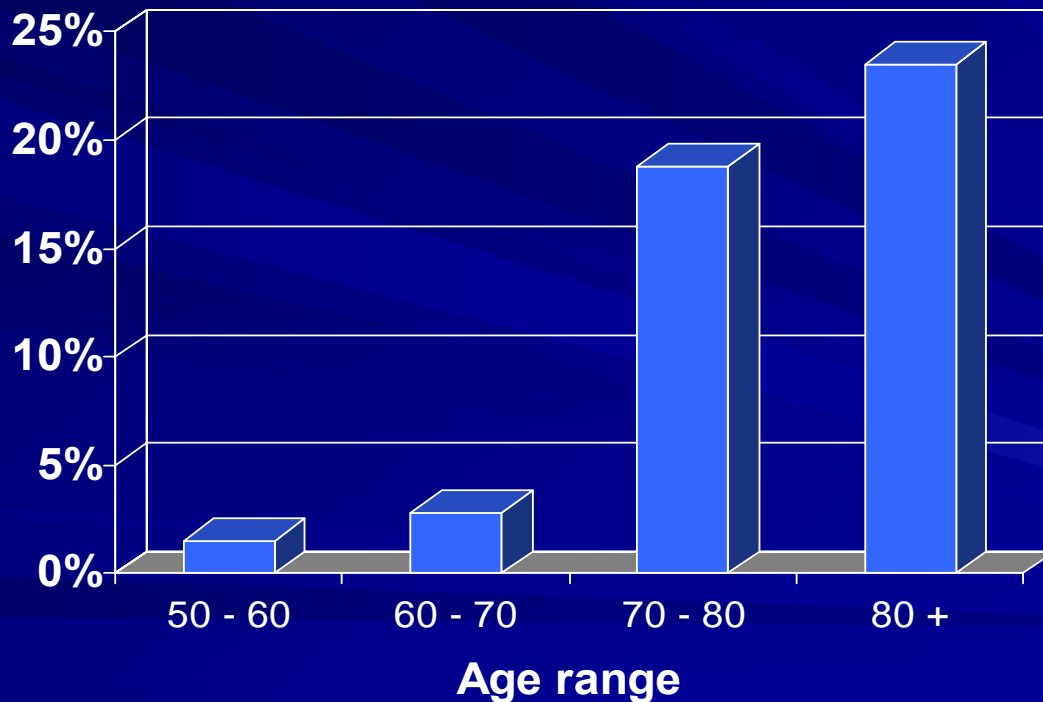
■ AF is very common

- At least 1.3 % UK population with known AF
- Approximately 600,000 patients in England

■ Major predisposing factor to stroke

- 16,000 strokes annually in patients with AF in England
- Of these approx 12,500 are thought to be attributable to AF

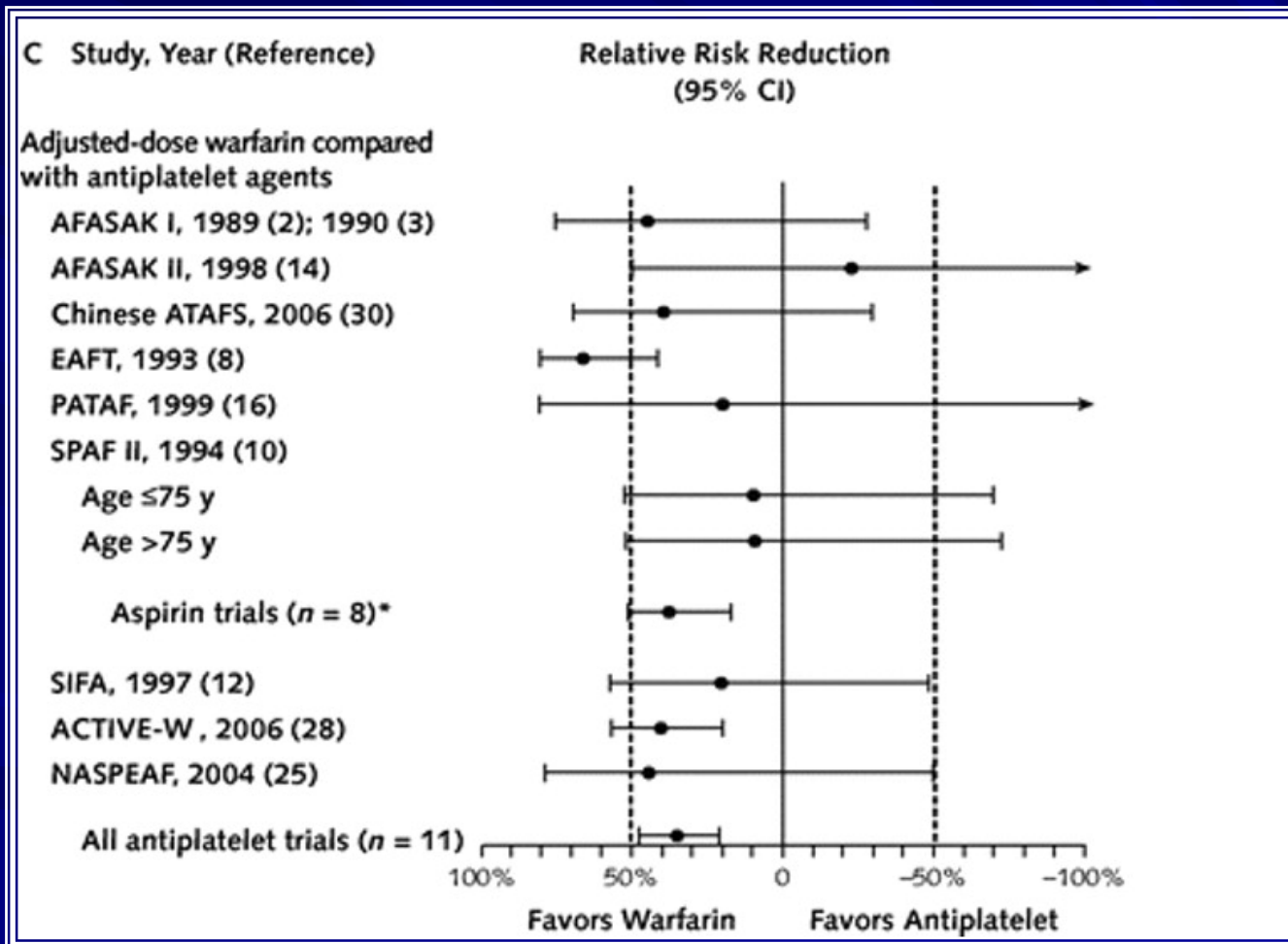
% of strokes attributable to AF by Age



Warfarin's superior Efficacy in stroke prevention in AF.

- Warfarin reduces stroke risk by
64%
- Aspirin reduces stroke risk by
22%

The Evidence



The BAFTA Study & Annual risk of haemorrhage

■ Warfarin	1.4 %
■ Aspirin	1.6 %

Warfarin did not increase haemorrhagic risk
in comparison with aspirin

Under use of anti-coagulation in AF

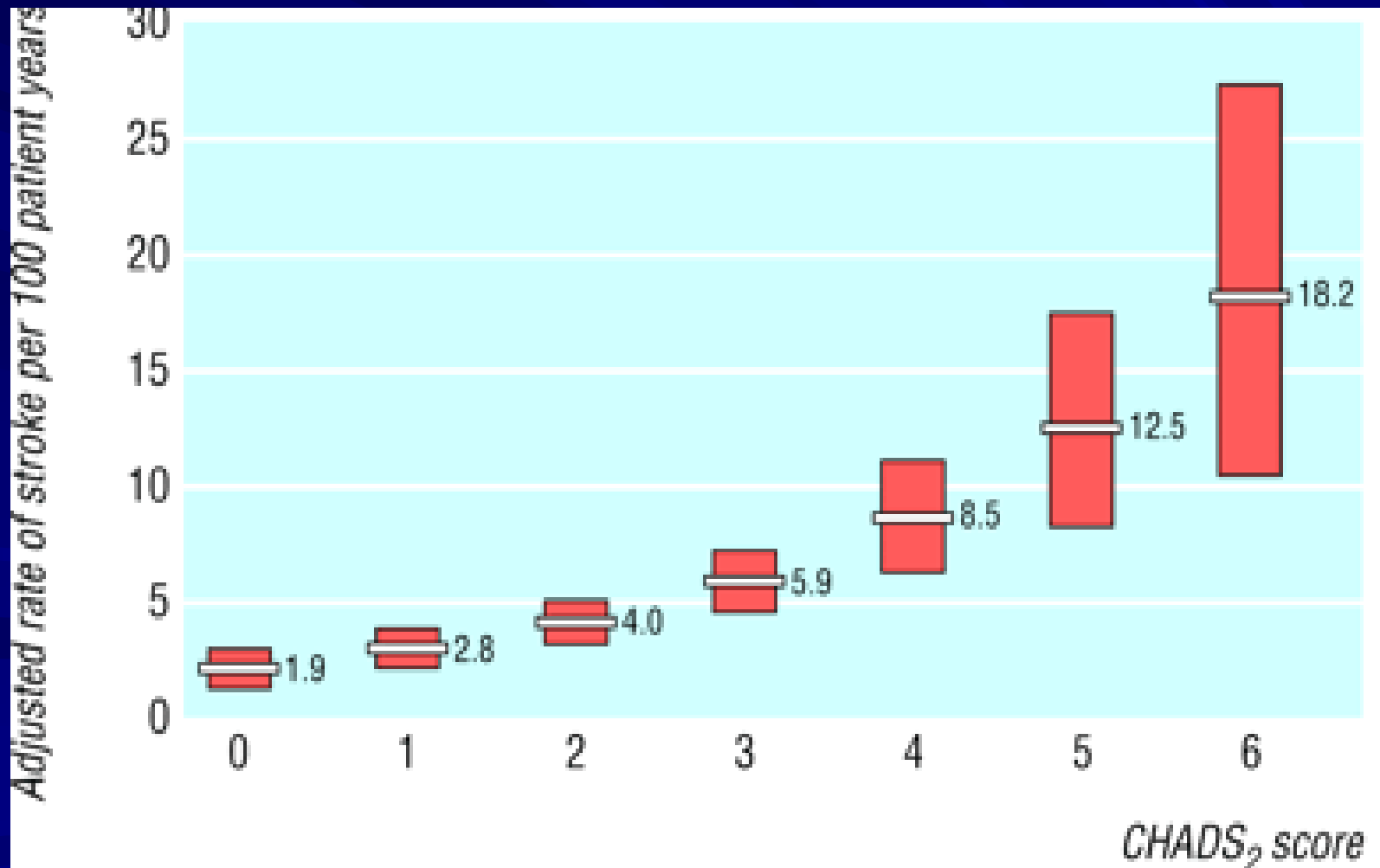
- “Amongst patients with recognized AF, approx half of those who would benefit from warfarin are receiving it.”
- “NICE estimate that of 355,000 patients who should be taking warfarin
 - 189,000 are actually receiving it.
 - An additional 166,000 should be receiving it”

Automatically calculates a CHADS₂ score for all AF patients.

CHADS ₂ item	Points
<i>Congestive heart failure</i>	<i>1</i>
<i>Hypertension</i>	<i>1</i>
<i>Age ≥ 75</i>	<i>1</i>
<i>Diabetes</i>	<i>1</i>
<i>Previous stroke or transient ischaemic attack</i>	<i>2</i>

Absolute risk

Based on CHADS₂ scoring system



Identifies any patients in practice with a CHADS2 score of 2+ and not on warfarin.

■ CHADS2 score

**Annual
stroke rate**

0

1.9 %

1

2.8 %

2

4.0 %

3

Warfarin

5.9 %

4

indicated

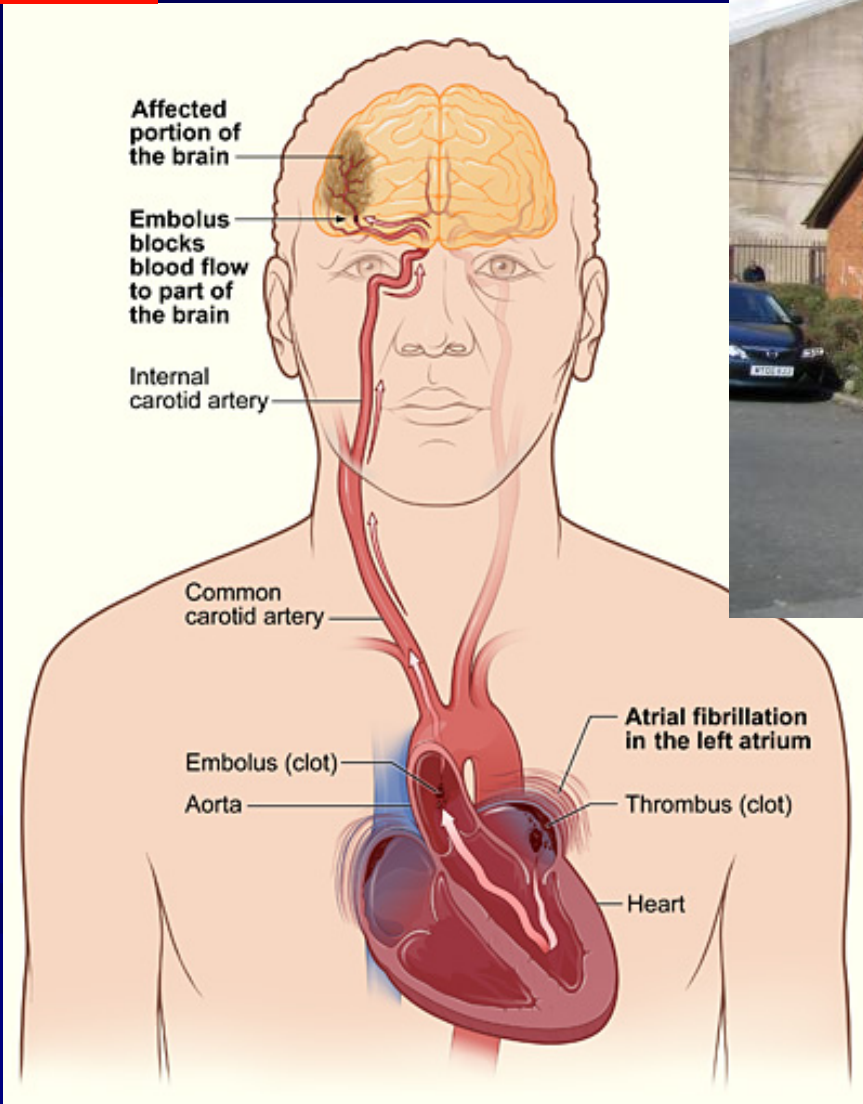
8.5 %

5

12.5 %

6

18.2 %



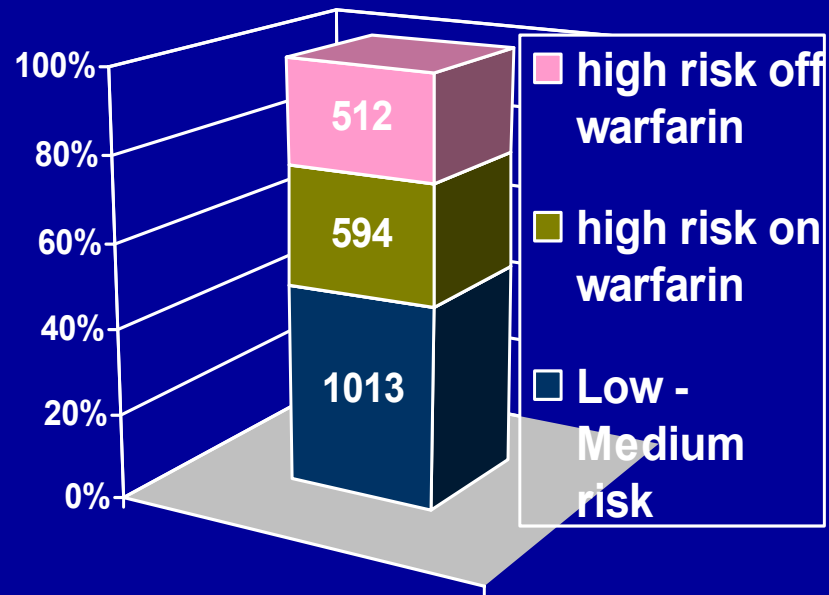
**How to find 160000 patients at risk,
distributed across the UK**



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
30	#662i (Read version 2) means																		
31	#G581% (Read version 2) means																		
32	#585f (Read version 2) means																		
33	#585g (Read version 2) means																		
34	#G5yy3 (Read version 2) means																		
35	#G5yyA (Read version 2) means																		
36	PRINT CODE	RUBRIC	DATE																
37	FROM JOURNALS (EARLIEST FOR PATIENT)																		
38	'WHERE CODE IN ("G2")	G20%	G24%	G2y	G2z														
39	#G2 (Read version 2) means																		
40	#G20% (Read version 2) means																		
41	#G24% (Read version 2) means																		
42	#G2y (Read version 2) means																		
43	#G2z (Read version 2) means																		
44	PRINT CODE	RUBRIC	DATE																
45	FROM JOURNALS (EARLIEST FOR PATIENT)																		
46	'WHERE CODE IN ("C10%")																		
47	#C10% (Read version 2) means																		
48	PRINT CODE	RUBRIC	DATE																
49	FROM JOURNALS (EARLIEST FOR PATIENT)																		
50	'WHERE CODE IN ("G63y0")	G63y1	G64%	G66%	G6760	G6W	G6X	\											
51	Gyu62-"Gyu66"	Gyu66	Gyu6F	Gyu6G	G65	G650	G651	G6510	\										
52	G652-"G654"	G654	G656-"G65z"	G65z	G65z0-"G65z2"	G65z2	F4236)												
53	#G63y0 (Read version 2) means																		
54	#G63y1 (Read version 2) means																		
55	#G64% (Read version 2) means																		
56	#F4236 (Read version 2) means																		
57	PRINT CODE	RUBRIC	DATE																
58	FROM JOURNALS (LATEST FOR PATIENT)																		
59	'WHERE CODE IN ("b2%")	8B2K	(1)604	(1)6681EMIS	(1)167	(1)1737)													
60	#b2% (Read version 2) means																		
61	#8B2K (Read version 2) means																		
62	#604 (BNF Codes) means																		
63	#6681EMIS (BNF Codes) means																		
64	#167 (BNF Codes) means																		
65	#1737 (BNF Codes) means																		
66																			
67																			
68	*RSP_IDENT	B86033	Allerton Medical Centre																
69	*RSP_AUTHR		Mrs Christine Davis																
70	*RSP_RDATE	20080523	1052																
71	&0	REPORT	FIXED		0														
72	&1	REFERENCE	DATE_OF_BIRTH	AGE	SEX	POSTCODE	CODE	RUBRIC	DATE	CODE	RUBRIC	DATE	CODE	RUBRIC	DATE	CODE	RUBRIC	DATE	CC
73																			
74	\$1	USFNUZ3U1w	.....		78 F	.....	G5730	Atrial fibr	19930301			G20	High bloo	2E+07				
75	\$1	USFNVZVU2w	.....		78 F	.....	G5730	Atrial fibr	20060501									
76	\$1	USFNWZ3UUw	.....		81 F	.....	G5730	Atrial fibr	20040505			G20	High bloo	2E+07				
77	\$1	USFNXZwU0w	.....		73 M	.....	G5730	Atrial fibr	19981219			G20	Essential	2E+07				
78	\$1	USFNZzWU1w	.....		76 F	.....	G5730	Atrial fibr	20010306			G20	Essential	2E+07	C109	Non-inzul	2E+07	
79	\$1	USFNZzXUwW	.....		87 F	.....	G5730	Atrial fibr	19910301	G581	Left ventr	2E+07						
80	\$1	USFNZz3UYw	.....		71 M	.....	G5730	Atrial fibr	20070326									
81	\$1	USFNZ0U1w	.....		85 M	.....	G573	Atrial fibr	NK	G58	Heart fail	2E+07	G20	Essential	2E+07	C10F	Type 2 di	2E+07
82	\$1	USGMTZ0UYw	.....		30 M	.....	G5730	Atrial fibr	20010207	G58	Cardiac f	2E+07	G20	Essential	2E+07			
83	\$1	USGMTZ2UvW	.....		70 M	.....	G5730	Atrial fibr	20011223	G581	Left ventr	2E+07	G20	Essential	2E+07			

Leeds Stroke Prevention in AF Audit

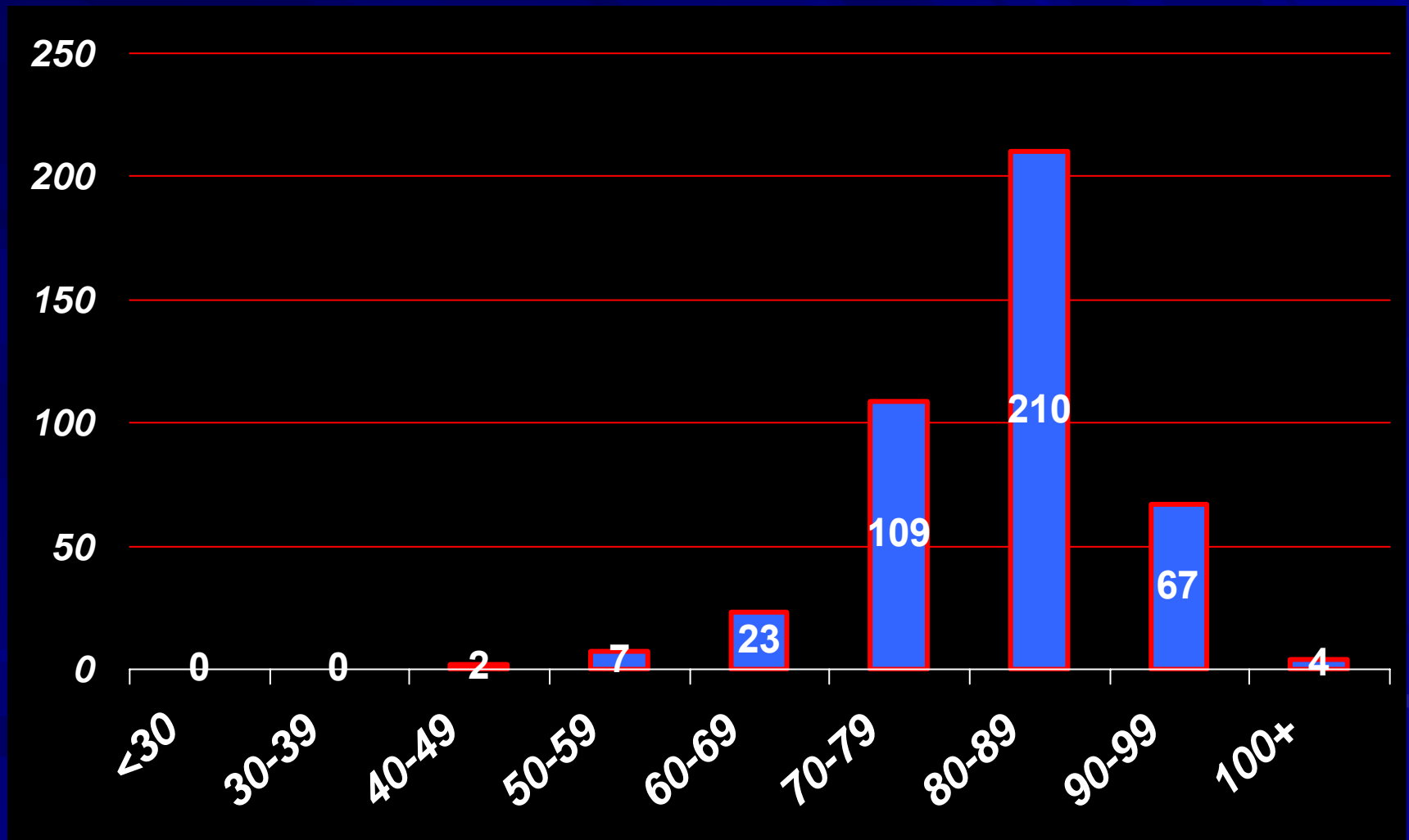
- Combined practice population of 151000
- 2119 (1.4%) patients with AF
- 1106 (52%) CHADS \geq 2
- 512 46% CHADS \geq 2 and not on warfarin



How many could convert to warfarin therapy on case note review

		recommendations from arrhythmia Nurse review of notes		
		no contraindications	relative or unclear	absolute contraindications
<i>practice</i>	<i>g</i>	19	13	11
<i>practice</i>	<i>h</i>	10	14	6
<i>practice</i>	<i>i</i>	7	7	4
<i>practice</i>	<i>j</i>	9	7	0
<i>practice</i>	<i>k</i>	22	14	5
<i>practice</i>	<i>l</i>	25	12	16
<i>practice</i>	<i>m</i>	11	8	1
<i>practice</i>	<i>n</i>	8	7	4
<i>practice</i>	<i>o</i>	20	17	11
Total		288		
no contraindications		45%		
relative contraindications		34%		
absolute contraindications		20%		

Distribution of unwarfarinised patients with a CHADS2 score >1 by AGE.



Bleeding risk during oral anticoagulation in atrial fibrillation patients older than 80 years.

Poli D et al

- Prospective observational study on 783 patients with AF on oral anticoagulant treatment (OAT).
- RESULTS: Patients spent a median 14%, 71%, and 15% of time below, within, and above the intended therapeutic range, respectively
- No difference in OAT quality was found between patients age <80 and ≥ or =80 years
- Different rates of major hemorrhage were observed between patients age <80 and ≥ or =80 years (0.9 vs. 1.9 x 100 patient/years)



Effect of age on stroke prevention therapy in patients with atrial fibrillation: the atrial fibrillation investigators.

van Walraven C et al

“As patients with atrial fibrillation age, the relative efficacy of Aspirin to prevent ischemic stroke appears to decrease, whereas it does not change for OAC. Because stroke risk increases with age, the absolute benefit of OAC increases as patients get older”.

Ann Intern Med. 2009 Jul 21;151(2):JC1-4.



Use of anticoagulation in elderly patients with atrial fibrillation who are at risk for falls.

Garwood CL

“Three risk-benefit analyses have been performed, and all found that the benefits of warfarin outweigh its risks even in patients who fall. Warfarin should be used rather than aspirin in elderly patients at risk of falls.”

“The risk of falls alone should not automatically disqualify a person from being treated with warfarin.”

“ While falls should not dictate anticoagulant choice efforts should be made to minimize fall risk.”

How Warfarin compares to Aspirin in the Elderly

- **mean age 82 in BAFTA**
- **Yearly risk of extracranial haemorrhage was 1.4% for warfarin vs 1.6% for aspirin**
- **primary care setting.**
- **BAFTA target INR of 2.5 (2 – 3) 68% of the time**
- **resembles the control in typical primary care practice**
- **inclusion was restricted to patients for whom there was clinical uncertainty as to which of the two treatments should be used**



NHS Improvement

Delivering tomorrow's improvement agenda for the NHS



Clinical Areas

- Cancer
- Heart
- Pathology
- Radiology
- Cytology
- Stroke
- Improvement System

Main Menu

- Home
- About Us
- Publications
- Quality, Productivity and Innovation
- Contact Us

Welcome to the NHS Improvement Portal

What's new?

Knowledge Exchange event; 16 June - Kingsway Hall Hotel, London

The next Knowledge Exchange event is taking place on the 16 June in London. Registrations are open to anyone, clinical or managerial interested in attending.

This cross-speciality event is designed to promote active knowledge sharing between clinical networks across the country in order to support service improvement, effective decision making and collaborative working.

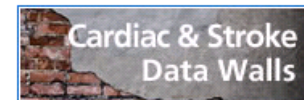
This event will focus on the NHS Quality Agenda, as set out in the Darzi Review 2008, the relaunch of the NHS Improvement System and the development of new and innovative products for service improvement.

Further details can be found [here](#) and a registration form can be downloaded [here](#)

A Guide to Implementing Primary Angioplasty

Since the publication of new national good practice guidance on treatment of heart attack, NHS Improvement has looked at the major issues and obstacles to implementing primary percutaneous coronary angioplasty (PPCI) services across England and all the learning has now been pulled together in a useful implementation guide.

The guide provides a brief overview of current provision of primary PPCI, a discussion of



Latest news

The latest ebulletins from across NHS Improvement are now available online.

26.05.09 - Stroke Improvement ebulletin

18.05.09 - Heart Improvement ebulletin

Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation (GRASP-AF)

Query and risk stratification tool available for use with all GP clinical systems in England



Registration form for the GRASP-AF tool

Name:

Telephone:

E-mail:

Practice Name:

Network (if applicable)

Send now

On receipt of this form, the link to the GRASP-AF tool will be sent directly to the email address supplied.

Supporting documents and resources

The GRASP-AF tool, resources and strategy in West Yorkshire Cardiovascular Network has been developed locally as part of the first phase of the AF in Primary Care national priority projects. Further information, case studies tools and resources have also been developed across the other projects across England.

Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation (GRASP-AF)

Background to GRASP-AF - Query and risk stratification tool available for use with all GP clinical systems in England

Developed collaboratively and piloted by the West Yorkshire Cardiovascular Network, the Leeds Arrhythmia team and PRIMIS+, as part of the AF in primary care national priority projects, made available nationally through NHS Improvement.

This tool should be used as part of a systematic approach to the identification, diagnosis and optimal management of patients with AF to reduce their risk of stroke. The following three documents give an example of the approach taken by West Yorkshire Cardiovascular Network.

- [GRASP-AF Toolkit developed by West Yorkshire Cardiovascular Network](#)
- [Grasp presentation](#)
- [Welcome to Guidance on Risk Assessment and Prevention in Atrial Fibrillation](#)

Stroke management and stroke prevention are major priority areas for the NHS. Atrial fibrillation (AF) is a major cause of stroke, accounting for some 14% of all strokes. Atrial fibrillation also increases the risk and severity of stroke. Recognition and optimal treatment of AF is of particular importance as strokes due to AF are eminently preventable.

- Prevalence rate in primary care is 1.2%, which equates to just over 600,000 patients in England have AF
- 12,500 strokes per year are thought to be directly attributable to AF
- The estimated total cost of maintaining one patient on warfarin for one year, including monitoring, is £383
- The cost per stroke due to AF is estimated to be £11,900 in the first year after stroke occurrence
- NICE estimate that approximately 40% of patients in whom warfarin is indicated are not receiving it, amounting to some 166,000 patients nationally.

What does GRASP-AF do?

- Provides a set of MIQUEST queries to identify, for your practice, patients with a diagnosis of AF



The Leeds Teaching Hospitals
NHS Trust



NHS
Leeds



The University of
Nottingham

PRIMIS+

The Inform Centre
for health and

West Yorkshire Cardiovascular Network
Stroke and Cardiac Networks

Guidance on Risk Assessment for Stroke Prevention - Atrial Fibrillation (GRASP-AF) Library

Last updated 27/03/2009

Version 0.0.7

This page has been provided to allow individuals known to The West Yorkshire Cardiovascular Network to download the GRASP-AF library.

Individuals usernames will be recorded and forwarded to the Cardiovascular Network for information.

A new version of the library has been added to the site on 27/3/2009 which defaults to the dashboard view when opening the summary sheet. If you have downloaded this library since 23/03/2009 there is no need to download it again.

The GRASP AF Library has now been updated to allow uploads to CHART Online. To upload your data you will need to install the latest version of the library below. You do not need to uninstall your old library. Installing the new version will overwrite the existing copy.

Please Note: You can upload your practice's data using your existing response files. There is no need to rerun the queries. The instructions below have been updated to show how to upload data.

In order to upload data to CHART Online you will be required to accept the Online Data Collection Agreement (DCA). Please refer to your email from PRIMIS+ or WYCN to sign the DCA.

It is important that users refer to the Advice File in CHART before running the queries.



PRIMIS+

 Search

Home Services Resources

Accessing PRIMIS+ Services | Tra

INFORMATION SERVICES

Information Services

CHART

CHART Online

Query Libraries

MIQUEST

CHART and MIQUEST Instructions

Facilitator Helpdesk

Services Once you have downloaded the latest version of the CHART software you will need to visit the Query Library Download pages below to install the required Query Library.

CHA CHART Software Download

CHART [CHART for Generic 5 Byte Systems](#) (Use this version for all 5 Byte systems including EMIS)

Online [CHART for all CTv3 Systems](#)

care b Click [here](#) to download instructions for setting up CHART and using the clinical system available MIQUEST interpreter.

Using CHART Query Library Downloads

Progress bar and address bar showing Internet

feature for a patient together at one time, and on one screen.

CHART currently has the following available clinical topics

- Myocardial Infarction and Acute Coronary Syndrome (MI&ACS)
- Safer Prescribing
- Heroin Misuse
- IM&T DES e-Audit
- HPA Influenza Uptake 2008/09



At iSoft Synergy and Premiere sites it is strongly recommended that you rebuild the indices before running the queries on MIQUEST.

Generic 5 Byte Systems	EMIS 5 Byte Systems (Excluding PCS)	CTv3 Systems
EMIS PCS	EMIS LV	SystemOne*
Vision	EMIS GV	Healthysoft
iSoft Synergy		Seetec
iSoft Premiere		
Microtest		

Click [here](#) to download dummy responses.

Instructions for Running the Queries

Please click on the appropriate link to download instructions for running the queries on the different clinical systems.

- [EMIS LV](#)
- [SystemOne](#)
- [EMIS PCS](#)
- [INPS Vision](#)
- [iSoft Synergy](#)



PRIMIS+ CHART

NHS
Connecting for Health

Care and Health Analysis in Real Time

Running an Audit

1. Select Query Library

AF_CHADS_SCORE

2. Tick to copy out full library of queries

Or Select Query to run

West Yorks AF and CHADS2 score

[Click for description of query](#)

Reference Date 20/04/2009

Insert clean disk into A: drive

3. [Copy queries to floppy](#)

4. Remove the Disk and run using

MIQUEST on the practice computer

Display Responses

1. Copy the responses to a floppy disk
2. Put the Disk back in this computer
3. [Click here to view new results](#)

or

[Click to view archived results](#)

[PRIMIS+ Support](#)

[Close Application and Databooks](#)

MIQUEST response file AFREPA.CSV was created on 22/01/09 using Refdate 22/01/09
 AF_CHADS2 SCORE AFREPA: Report on patients with AF (Pseudonymised)

Reference	Age	Sex	Earliest AF code	Earliest AF date	CHADS2 score	% Annual risk of stroke	Earliest heart failure code	Earliest heart failure date	Earliest hypert code	Earliest hypert date	Age > 75	Earliest DM code	Earliest DM date	Earliest stroke code	Earliest stroke date	Latest warfarin code in L6M	Latest warfarin date in L6M	Latest...
00uQ	83	M	G5730	15/06/05	3	5.90					83			G61..	02/07/08	bs18.	20/01/09	G6...
01Ud	62	M	G5730	16/06/04	1	2.80			G2...	26/03/05						bs19.	13/01/09	
01Yv	76	M	G573.	11/10/92	4	8.50			G2...	09/02/94	76			G61..	23/04/93			G6...
02QC	91	M	G573.	09/05/93	3	5.90	G580.	09/05/93			91	C1001	13/10/97					
00Df	75	M	G5730	02/01/04	3	5.90			G2...	23/10/02				G65..	11/05/03			
00QS	88	F	G573.	28/03/00	4	8.50	G581.	27/01/03			88			G65..	17/07/93	bs19.	20/01/09	G6...
00u9	64	F	G5730	04/05/04	1	2.80			G2...	07/08/95								
01HV	83	M	G573z	05/01/01	2	4.00			G2...	26/01/05	83					bs18.	13/01/09	
01Lq	82	M	G5730	07/06/05	4	8.50			G2...	18/11/03	82			G64..	02/06/05			
02DA	82	M	G573.	13/04/04	2	4.00			G2...	11/01/05	82							
zzpr	87	F	G573.	14/04/05	1	2.80					87							G60
zzps	103	F	G573.	07/09/05	3	5.90					103			G65..	27/11/02	bs17.	13/01/09	
zzyO	79	F	G573.	21/07/02	2	4.00			G2...	01/12/81	79							
00yA	82	F	G573.	09/07/00	2	4.00			G2...	22/05/94	82							
02LT	70	M	G5730	07/10/06	1	2.80			G2...	24/06/96								
01PY	87	F	G573.	23/12/97	3	5.90			G2...	15/11/94	87	C1001	28/04/98			bs19.	13/01/09	
0267	79	M	G573.	01/01/01	2	4.00			G2...	24/11/93	79							
02L6	71	F	G5730	01/02/05	5	12.50	G580.	29/04/96	G2...	18/12/93		C10..	18/10/03	G65..	28/05/92			
006I	87	F	G573.	17/01/04	1	2.80					87					bs1A.	20/01/09	
00Cx	64	M	G573.	02/05/98	1	2.80			G2...	01/12/87								
00p7	69	M	G5730	21/03/06	0	1.90												

MIQUEST response file AFREPA.CSV was created on 03/07/08 using Refdate 03/07/08
AF_CHADS SCORE AFREPA: Report on patients with AF (Pseudonymised)

Reference	Age	Sex	Registration date	CHADS2 score	Latest warfarin code in L6M	Latest warfarin date in L6M
Du1vCwBEtx	76	M	24/09/08			
Du1vCwBtEx	73	M	29/08/08			
Du1vCwBEuB	70	M	29/11/08			
Du1vCwBEww	78	M	05/02/08			
Du1vCwBwCC	81	M	27/04/08			
Du1vCwB1Dv	70	F	21/04/08			
Du1vCwB1v1	81	F	24/09/08			
Du1vCwBCxu	94	M	05/07/08			
Du1vCwBtEu	79	M	28/04/08			
Du1vCwBDuD	84	F	21/07/08			
Du1vCwBuCt	90	F	03/11/08			
Du1vCwB1Et	64	F	25/09/08			
Du1vCw11xx	80	F	16/06/08			
Du1vCwu1xx	89	M	08/04/09	G573	16/05/06	
Du1vCwtuxx	73	M	13/03/81	G5730	01/10/02	
Du1vCwDDBx	74	M	29/01/82	G5730	23/01/91	
Du1vCww1Cx	65	F	02/11/81	G5732	29/01/03	
Du1vCwssCx	76	M	22/10/82	G5730	16/12/96	G20z. 21/12/04 76
Du1vCwuvvx	81	M	04/03/71	G5730	30/06/99	81
Du1vCwrvtx	90	F	05/05/94	G5732	06/11/03	G20.. 01/01/80 90 G65.. 11/11/99
Du1vCwttxB	70	F	20/10/94	G5730	25/02/98	G20.. 03/11/06

Filter Management

Select a filter to load. Active filters have text in the box.
Then press 'Load'

- Filter 1 High risk not on warfarin
- Filter 2 Medium risk not on warfarin
- Filter 3 On Warfarin with history of haemorrhagic stroke
- Filter 4 Patients with reasons for not being on warfarin
- Filter 5

Load Clear Filter Cancel

Audit of Atrial Fibrillation and CHADS2 Scores

[Classic View](#)

Practice:

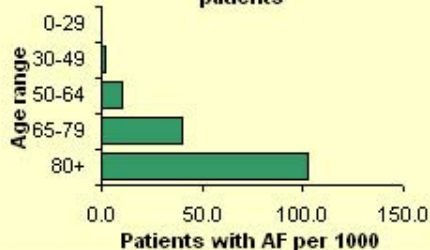
Reference Date for Audit 22/01/2009

Total Practice Population 5342

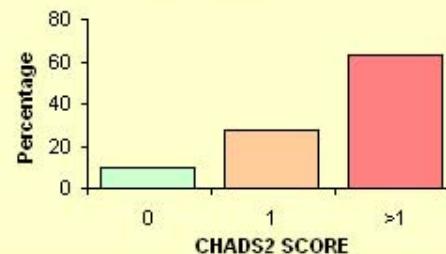
	Total	Percent
No. with Atrial Fibrillation	84	1.57
Percent of over 65s with AF		6.12

NB: Handling of Warfarin Exclusions

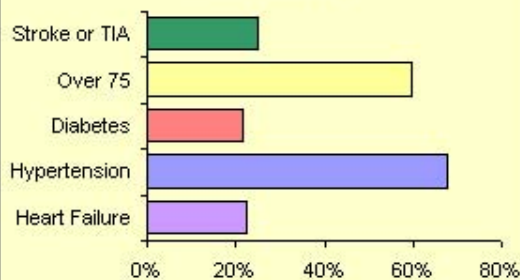
Atrial Fibrillation rate per 1000 patients



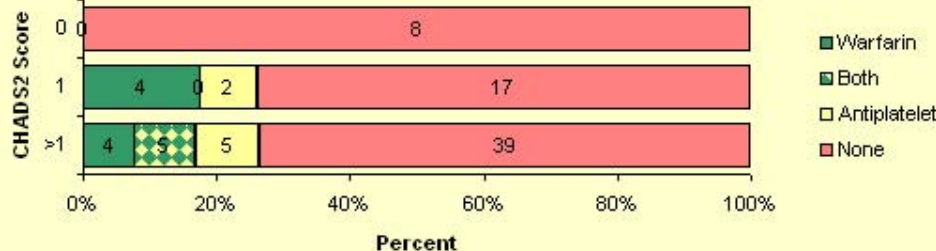
Risk Profile for Thrombo-embolism



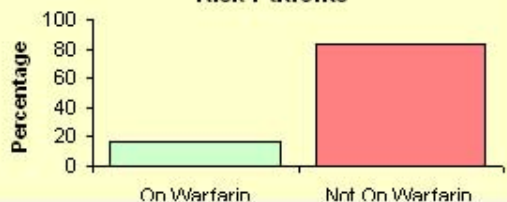
Risk factors



Breakdown of Warfarin and Antiplatelets use by CHADS score



Warfarin use in High Risk Patients

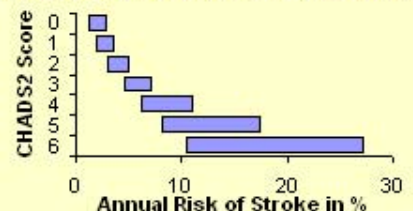


Strokes Expected Annually in the 44 high risk untreated

3.0

(95% CI 2.2 to 3.9)

Risk of Stroke v CHADS2 Score (95% CI)



[ADVICE](#)
[REFERENCES](#)
[PODCAST](#)

A B C D E F G H I J K L

1 M12345

2 Data extracted on 03/07/08 using Reference date 03/07/08

3 **AF: CHADS2 Score** [Click here for Dashboard view](#)

4

5

	No	Percent
--	----	---------

Total No of patients currently registered with the Practice	9824	
-------------------------------------------------------------	------	--

Total No of patients with atrial fibrillation / flutter	130	1.32
---------------------------------------------------------	-----	------

8

9

% of practice population aged 65+ with atrial fibrillation / flutter		8.12
----------------------------------------------------------------------	--	------

10

11

Risk profile for thromboembolism		
----------------------------------	--	--

CHADS2 score = 0	21	16.15
------------------	----	-------

CHADS2 score = 1	50	38.46
------------------	----	-------

CHADS2 score > 1	59	45.38
------------------	----	-------

14

15

16

Warfarin use in high risk patients (CHADS2 >1)		
------------------------------------------------	--	--

Patients on warfarin	26	44.07
----------------------	----	-------

Patients not on warfarin	33	55.93
--------------------------	----	-------

18

19

20

Start Microsoft PowerPoint - [...] Microsoft Excel - WBo...

GRASP - AF

Potential of preventing 3000 – 6000 strokes annually across the UK, if applied to GP practices nationally.