



Oral anticoagulant protocols in practice: The Greater Manchester approach to the introduction of new anticoagulation therapies

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Network Director GMCCSN



Context and case for change

Atrial Fibrillation (AF) is a significant risk factor for stroke as it potentially leads to the formation of blood clots in the heart, and patients with AF have a five-fold greater risk of stroke and thromboembolism than non-AF patients.

Following a stroke, patients with AF experience greater disability, longer in-hospital patient stay and lower rate of discharge to own home than non-AF patients.

In 2006, NICE estimated that there were 639,000 patients with AF in England, giving a national prevalence rate of 1.28%.

NICE currently recommend that patients with AF at high/moderate risk of stroke are anticoagulated with warfarin and in 2006 estimated that 29% of AF patients received warfarin.



Project Aims Objectives and Outcomes

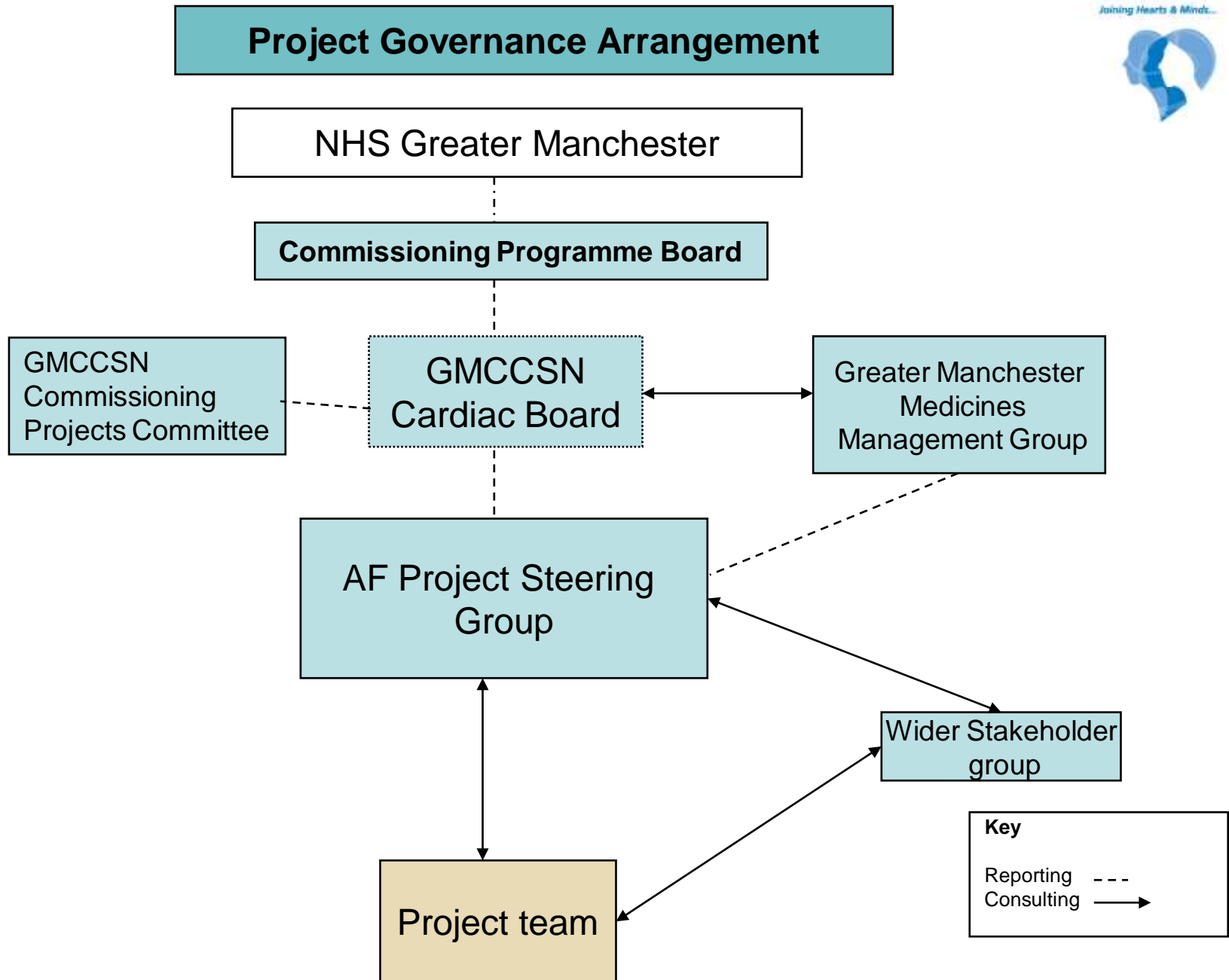
Aims of the project:

- To increase the number of patients receiving appropriate anticoagulation therapy by early identification and treatment.
- To understand the provision of anticoagulation services in advance of the introduction of new oral anticoagulation drugs that will enable the best use of resources.
- To streamline care pathways for patients with AF.
- To ensure best use of resources in line with Quality Innovation Productivity & Prevention (QIPP) principles.
- To obtain best outcomes for patients in terms of clinical efficacy in line with national and regional standards, guidance and policies.
- Disseminate information regarding new service models for patients with AF across the network area.
- Deliver Public Health prevention agenda.
- To achieve the best outcomes for patients in terms of clinical and cost effectiveness quality markers.



Project Partnerships

- The project is delivered in partnership with GMCCSN, GMMMGS and Boehringer Ingelheim (BI).
- This has been delivered through an ABPI/Department of Health (DH) partnership contract. These formal and structured joint working frameworks can offer significant benefits for patients, the NHS, local stakeholders and the pharmaceutical company.
- The joint-working contract will define the mutual reciprocity of the project as well as offer clear outcome measures for all stakeholders.
- Latest DH governance policy and guidance can be found at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082840





Steering Group Membership

- Network Quality Improvement leads
- Cardiac and Stroke consultants
- Anti coagulation services in secondary care
- Medicines management
- Public Health
- GPs / PEC Chairs
- Patient Representative
- Clinical Consultant Haematologist
- GP Commissioner
- BIUK non promotional representation



Project Method

1. Roll out of GRASP AF tool
2. Baseline audit anticoagulation services across Greater Manchester
3. Development of economic model
4. Developing algorithms for treatment and management of patients with AF
5. Educational events
6. Consultation and Engagement



1. GRASP - AF

- GRASP-AF is a computerised tool that enables a set of MIQUEST queries to run on GP clinical systems.
- It produces a list of all patients identified and coded in the system with AF and applies a CHADS2 score, enabling practices to identify patients with a high risk score for stroke and not currently prescribed warfarin.
- The tool allows practices to view all patients with all scores and their current medication.
- The tool was developed in West Yorkshire with the help of PRIMIS+, the NHS Primary Care IT service. The tool is hosted by PRIMIS+ and is available via the NHS Improvement Programme



2. Baseline Audit Anticoagulation Services

- A baseline audit was sent to all Directors of Commissioning
- 100% audit proformas returned
- Audit identified a great deal of variation across the Network in terms of cost and service provision.
- This will need to be factored into the economic modelling for individual PCTs.
- Further piece of work identified to look at standardised approach to anticoagulation services.



3. Economic Model or Costing Tool

- An economic model has been developed to inform commissioners as to the budget impact of including new oral anticoagulant therapies
- A local stakeholder workshop and the clinical steering group mapped current pathways to ensure the economic model reflected service provision
- The model has been independently validated by the University of Manchester
- The model will use local population data combined with the treatment algorithm for AF to identify potentially eligible patients
- Local population data will be obtained by running GRASP – AF or equivalent



4. Greater Manchester Treatment Algorithms

- Greater Manchester algorithms have been developed to promote consistent treatment and management of patients with AF
- **Warfarin remains first line treatment for patients with AF**
- As Dabigatran is a newly licensed preparation used for stroke prevention in AF patients, it should be closely monitored and any actual or suspected side effects should be reported to the MHRA
- These guidelines will be reviewed regularly as in light of NICE recommendations and as other agents are launched
- This guidance also includes:
 - Stroke risk assessment
 - Contra indications to anticoagulation
 - Stability of INR
 - Time in therapeutic range



5. Educational Events

- Educational events offers to all PCTS
- Content includes:
 - What is AF
 - Treatment and management of AF
 - GRASP AF tool
- Purpose is to promote best practice and to dispel myths



6. Consultation and Engagement

- It is vital that all stakeholders were engaged with this project
- The details of the project are being disseminated in a variety of ways:
 - A special e-bulletin was produced outlining the aims and methodology of the project
 - A stakeholder meeting was held on the 11th February to enable key stakeholders to input into the modelling process
 - Regular updates to the GMCCSN cardiac and stroke boards, GMMMG, and CPB
 - Educational events

Key Points

- There has been work at Greater Manchester level to increase the number of patients receiving appropriate anticoagulation therapy by early identification and treatment
- The work also included looking at the newer oral anti-coagulants for AF
- Patients should be risk assessed and managed in line with GM algorithms and guidance
- Newer therapies should only be considered when all reasonable attempts to maintain patients as per GM algorithms / guidance have been exhausted
- The Network is offering support for installing and running GRASP – AF and in running the economic model
- Future work includes review of anticoagulation services in collaboration with the Pathology Network





Treatment Algorithms

Dr Alan Fitchet

GMCCSN Heart Rhythm Management Clinical lead

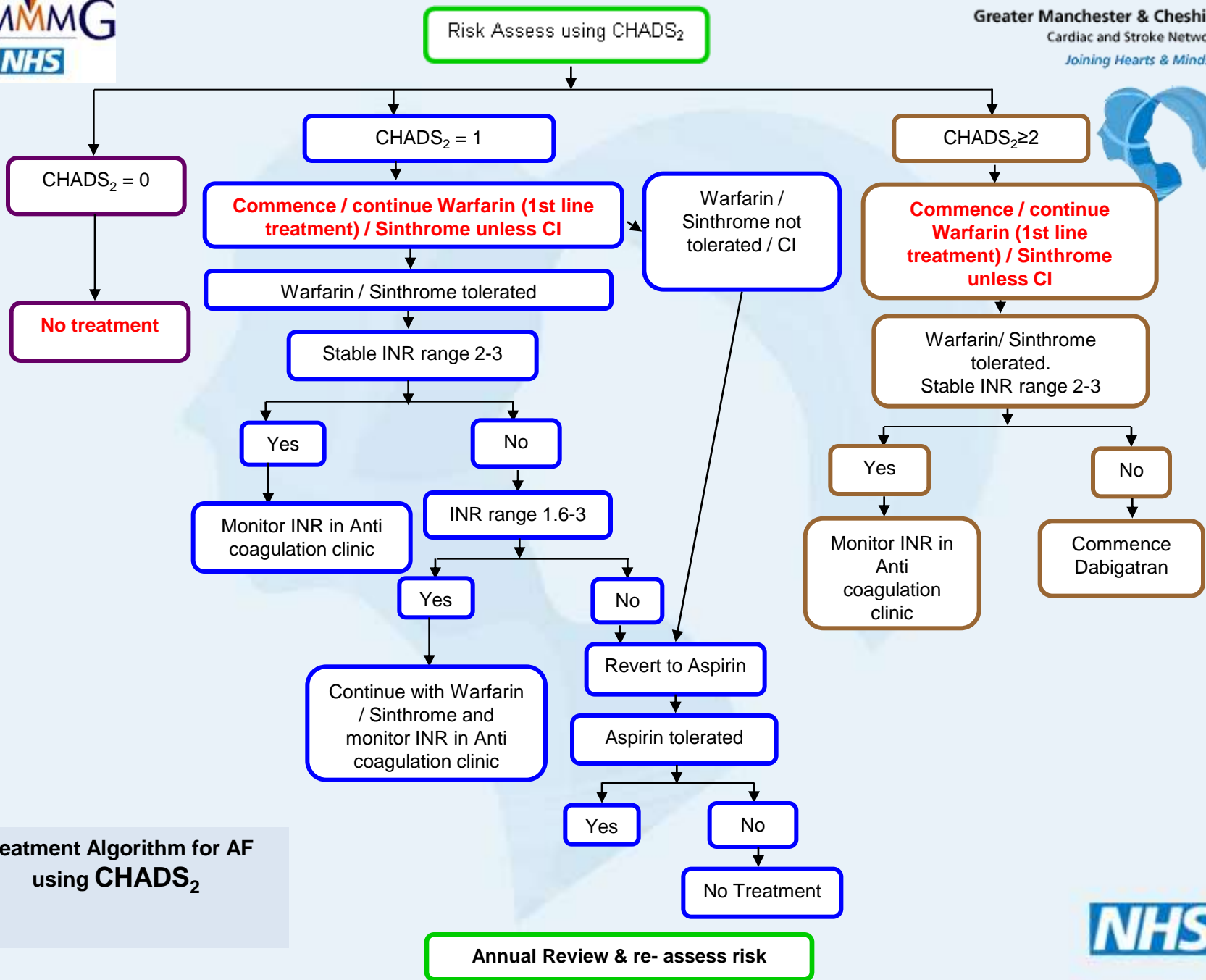
Cardiologist – Salford Royal Hospital

GM&C Cardiac Network AF Strategy

Work to Date

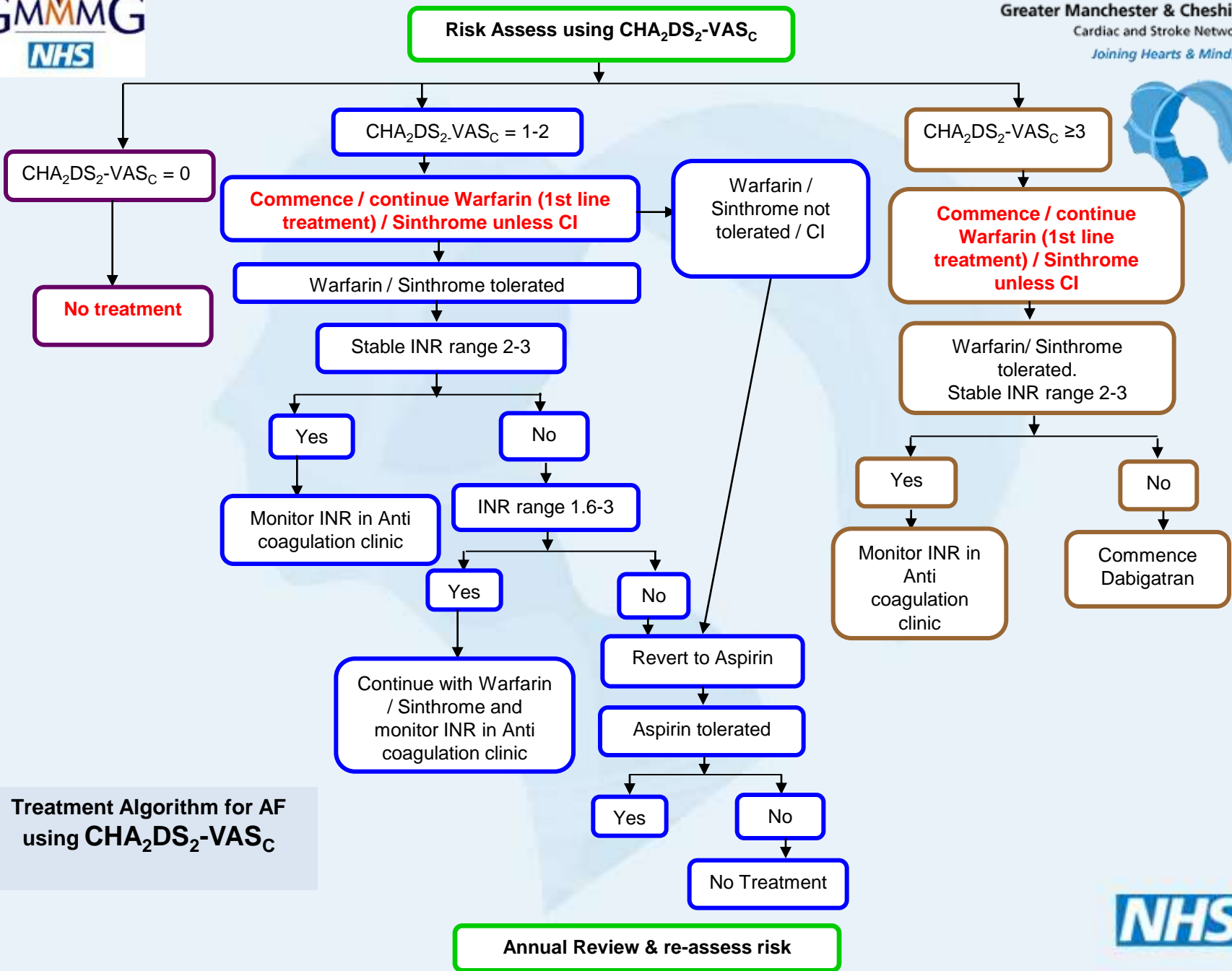


- Comprehensive Primary Care Guidance on AF Management
- Role out of GRASP AF across GM&C
- Rolling programme of Primary Care Education across GM&C
 - What is AF?
 - Management of AF (Importance of Anticoagulation)
 - The role and implementation of GRASP AF
 - Awareness of The Guidance
- Increasing awareness and use of $CHA_2DS_2VAS_C$



Treatment Algorithm for AF using CHADS₂

Annual Review & re- assess risk



Risk Assess using $CHA_2DS_2-VAS_C$

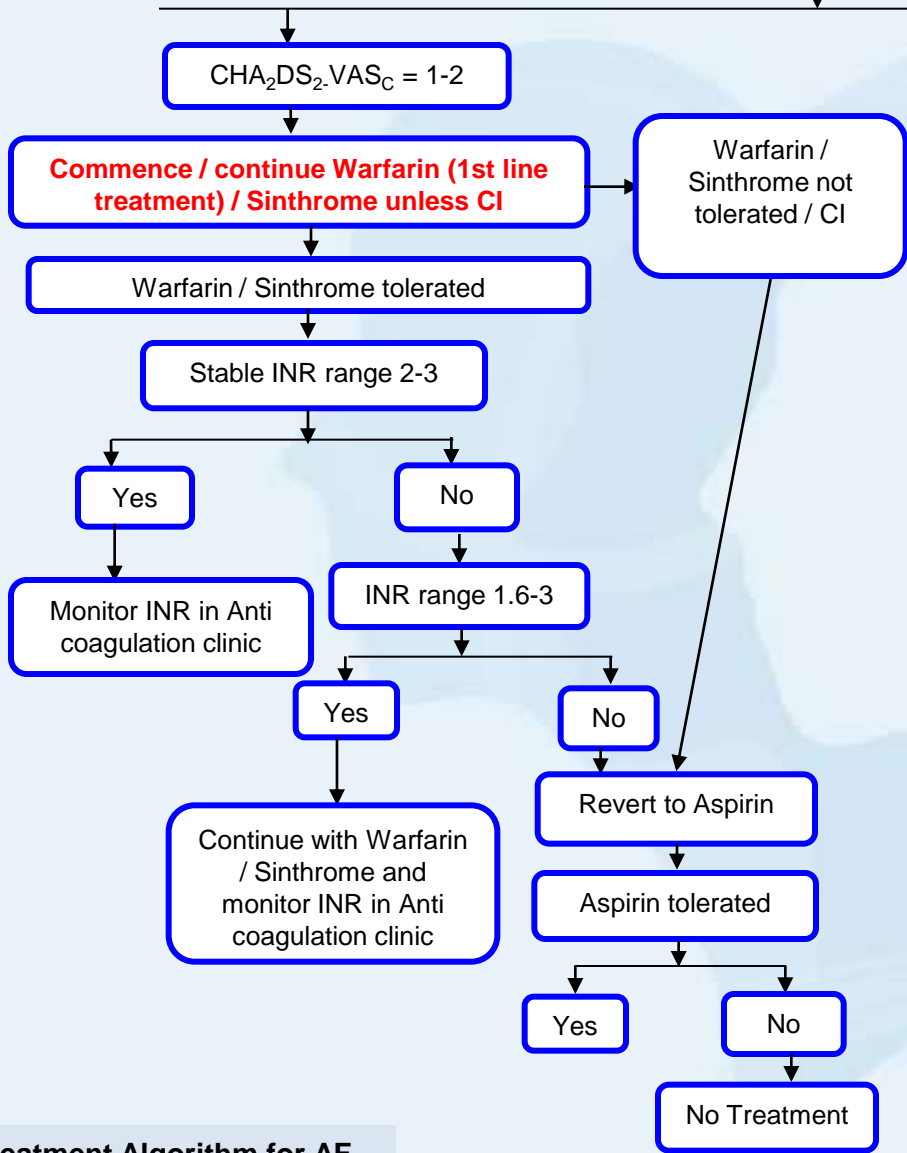


$CHA_2DS_2-VAS_C = 0$

No treatment



Risk Assess using CHA₂DS₂-VAS_C



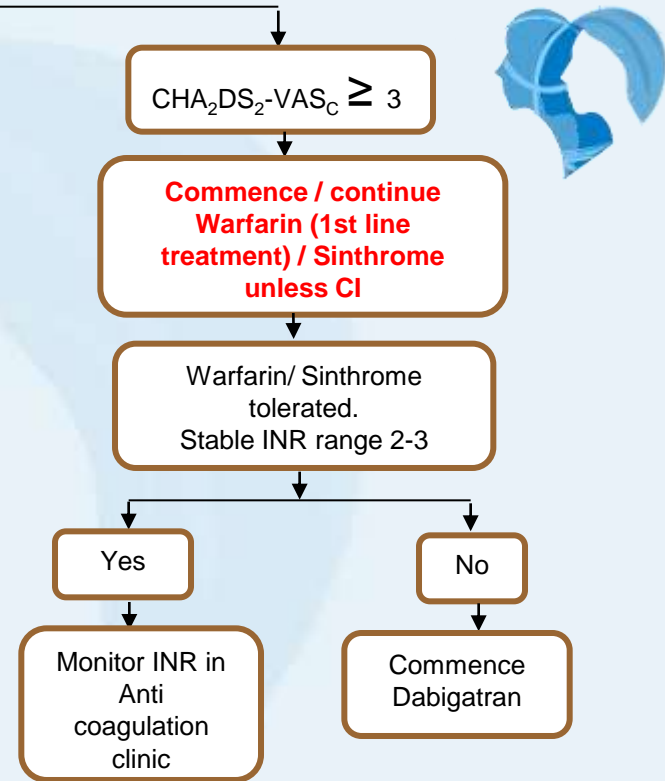
Decision not to offer Dabigatran to patients with a CHADS₂ score of 1 or CHA₂DS₂-VAS_C score of 1-2 is based on cost-effectiveness

Also If these patients can tolerate warfarin / sintrome but are unable to maintain an INR range of 2-3 then **broadening the INR range to 1.6 – 3.0** and continuing with warfarin / sintrome should be considered. There is evidence to suggest that using warfarin / sintrome with this broader INR range is more beneficial than aspirin in stroke prevention

Treatment Algorithm for AF using CHA₂DS₂-VAS_C

Risk Assess using CHA₂DS₂-VAS_C

Patients with a CHADS₂ score of ≥ 2 or
CHA₂DS₂-VAS_C score of ≥ 3 who
cannot tolerate or be controlled on
standard
anticoagulation should be offered
Dabigatran





Tolerance of Warfarin/Sinthrome

Tolerance of Warfarin/Sinthrome



Table 4. Discontinuation of the Study Drug, Adverse Events, and Liver Function According to Treatment Group.*

Variable	Dabigatran, 110 mg (N = 6015)	Dabigatran, 150 mg (N = 6076) <i>number of patients (percent)</i>	Warfarin (N = 6022)
Study-drug discontinuation			
Discontinued at 1 yr†	862 (15)	935 (16)	608 (10)
Discontinued at 2 yr†	1161 (21)	1211 (21)	902 (17)
Reason for discontinuation			
Patient's decision	440 (7.3)	474 (7.8)	375 (6.2)
Outcome event	192 (3.2)	164 (2.7)	130 (2.2)
Serious adverse event‡	163 (2.7)	166 (2.7)	105 (1.7)
Gastrointestinal symptoms§	134 (2.2)	130 (2.1)	38 (0.6)
Gastrointestinal bleeding	58 (1.0)	80 (1.3)	54 (0.9)

Tolerance of Warfarin/Sinthrome



Table 4. Discontinuation of the Study Drug, Adverse Events, and Liver Function According to Treatment Group.^a

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Adverse events¶			
Dyspepsia‡	707 (11.8)	688 (11.3)	348 (5.8)
Dizziness	486 (8.1)	506 (8.3)	568 (9.4)
Dyspnea	557 (9.3)	580 (9.5)	586 (9.7)
Peripheral edema	473 (7.9)	478 (7.9)	468 (7.8)
Fatigue	399 (6.6)	401 (6.6)	372 (6.2)
Cough	344 (5.7)	348 (5.7)	364 (6.0)
Chest pain	312 (5.2)	377 (6.2)	357 (5.9)
Back pain	316 (5.3)	314 (5.2)	337 (5.6)
Arthralgia	270 (4.5)	335 (5.5)	346 (5.7)
Nasopharyngitis	337 (5.6)	330 (5.4)	336 (5.6)
Diarrhea	377 (6.3)	397 (6.5)	346 (5.7)
Atrial fibrillation	330 (5.5)	357 (5.9)	349 (5.8)
Urinary tract infection	273 (4.5)	289 (4.8)	335 (5.6)
Upper respiratory tract infection	288 (4.8)	285 (4.7)	313 (5.2)
Liver function			
ALT or AST >3x ULN	124 (2.1)	117 (1.9)	132 (2.2)
ALT or AST >3x ULN with concurrent bilirubin >2x ULN	13 (0.2)	13 (0.2)	21 (0.3)
Hepatobiliary disorder**			
Serious adverse event	33 (0.5)	34 (0.6)	33 (0.5)
Non-serious adverse event	101 (1.7)	109 (1.8)	112 (1.9)



Defining Good Anti-coagulant Control



Stability of INR control

Indicators for instability of anticoagulation include:

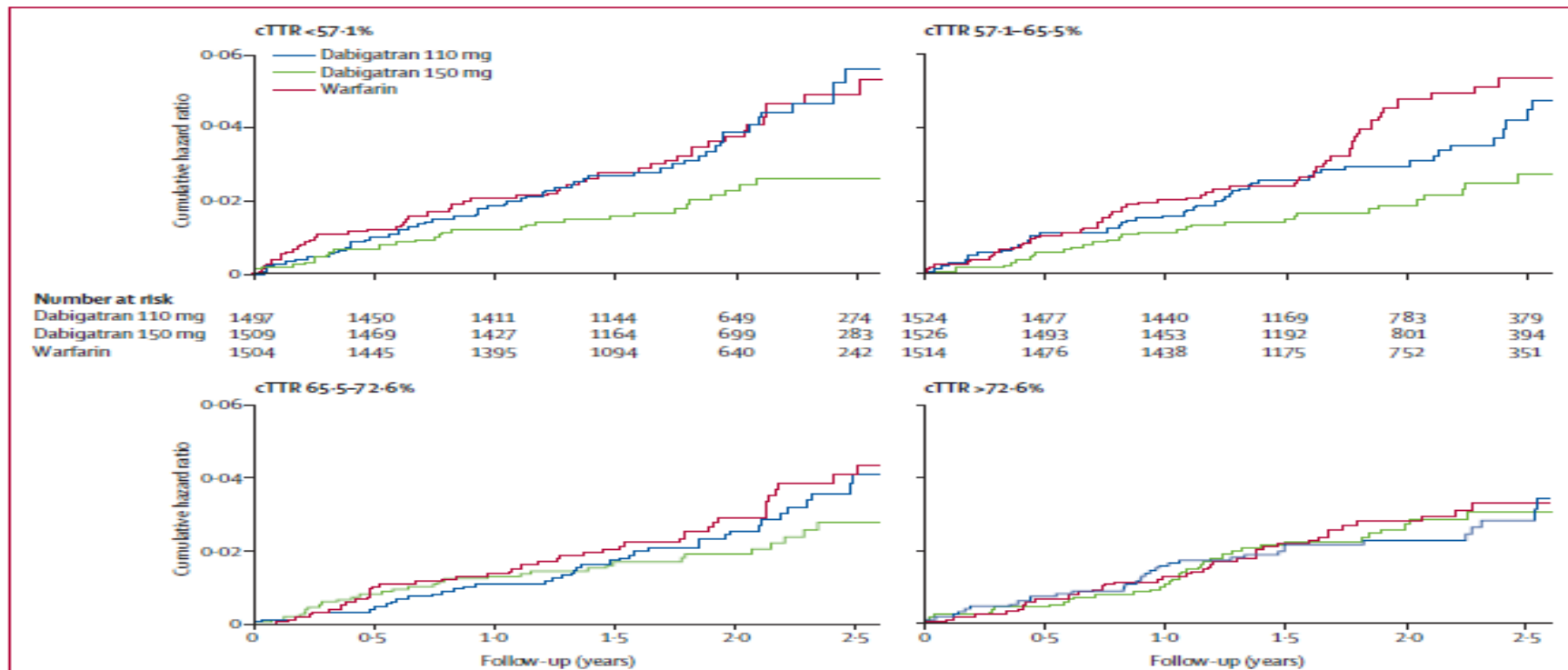
- Low time in therapeutic range (TTR)
- Clinic visit frequency
- Frequent high INRs



Low Time in Therapeutic Range (TTR)

- Low time in therapeutic range (TTR) once stabilised on warfarin (usually 5 months)
- The INR % of time in the therapeutic range of 2-3 should be 60% or greater
- TTR should be measured for individual patients using the Rosendaal Method¹

Low Time in Therapeutic Range (TTR)



Benefits of Dabigatran over Warfarin in RELY were most apparent in warfarin treated populations with low TTRs

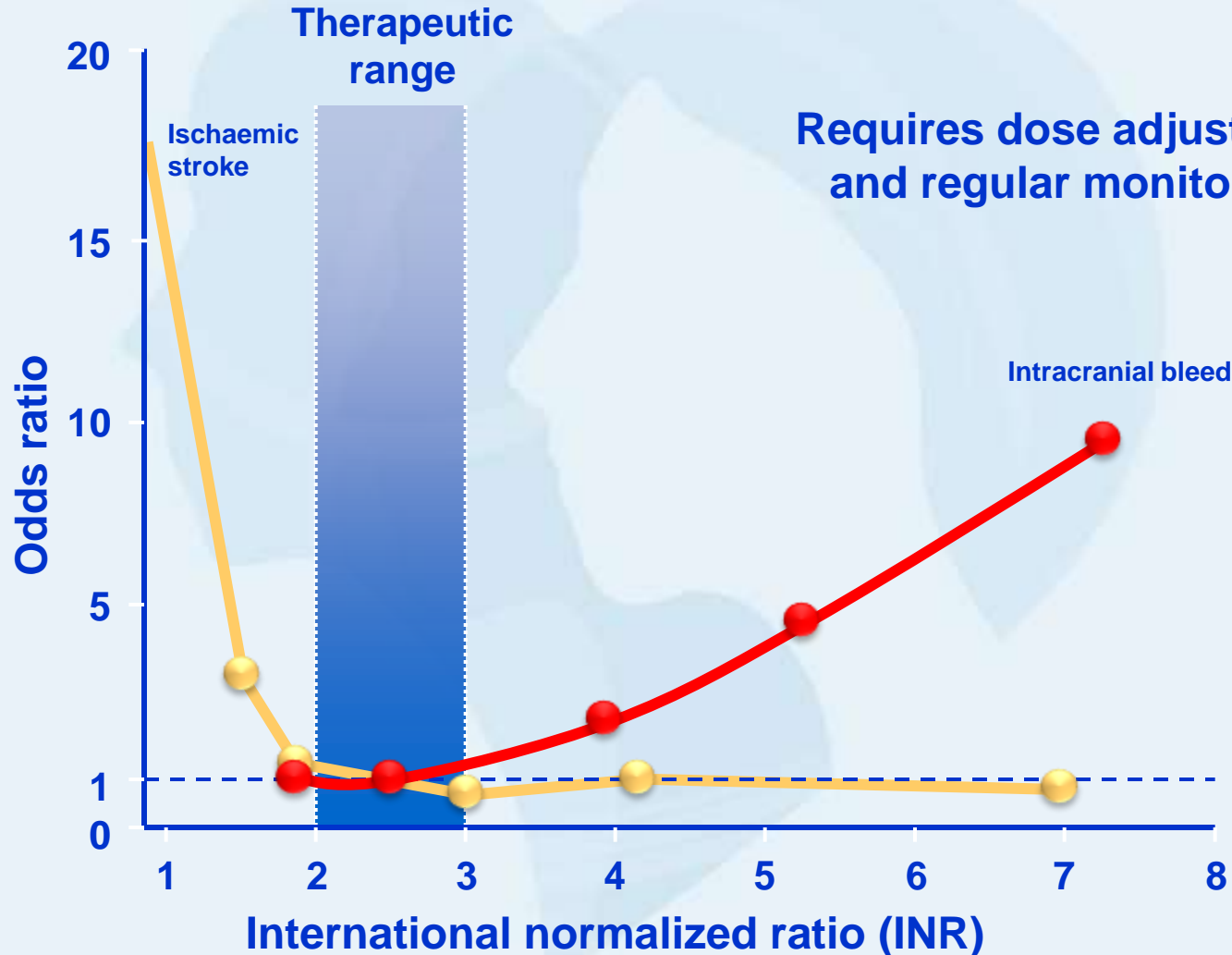
UK A/C clinics report a TTR of ~ 65%



Increased A/C Clinic Visits

- Audit data suggests a wide range of visit frequency between A/C clinics in the NW
- Clinic visit frequency > 50% above clinic schedule of visits
- Excluded from Calculation – Predictable increases in visits
 - e.g. due to co-prescription of antibiotics, inter current illness, vomiting providing these are infrequent

Frequent high INRs - Warfarin and its challenging therapeutic window



Requires dose adjustment
and regular monitoring



Frequent high INRs

Consensus opinion

- INR >5 more than 5 times per year
- This predicts an increased risk of haemorrhagic complications



Summary

- Interim guidance pending NICE guidance
- Inadequate A/C control on warfarin remains under debate – both locally and nationally
- Absolute number of individuals likely to fall within this guidance is currently difficult to estimate.
 - GRASP AF will provide more up to date local data.



Any Questions?



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