Royal United Hospitals Bath
NHS Foundation Trust

Optimisation of Anticoagulation GP Pilot Project

Josephine Crowe – Consultant Haematologist
Nathan Jones – Anticoagulation Pharmacist
Sophie Didcott – Anticoagulation Nurse

Everyone Matters
Working Together
Making a Difference

Overview

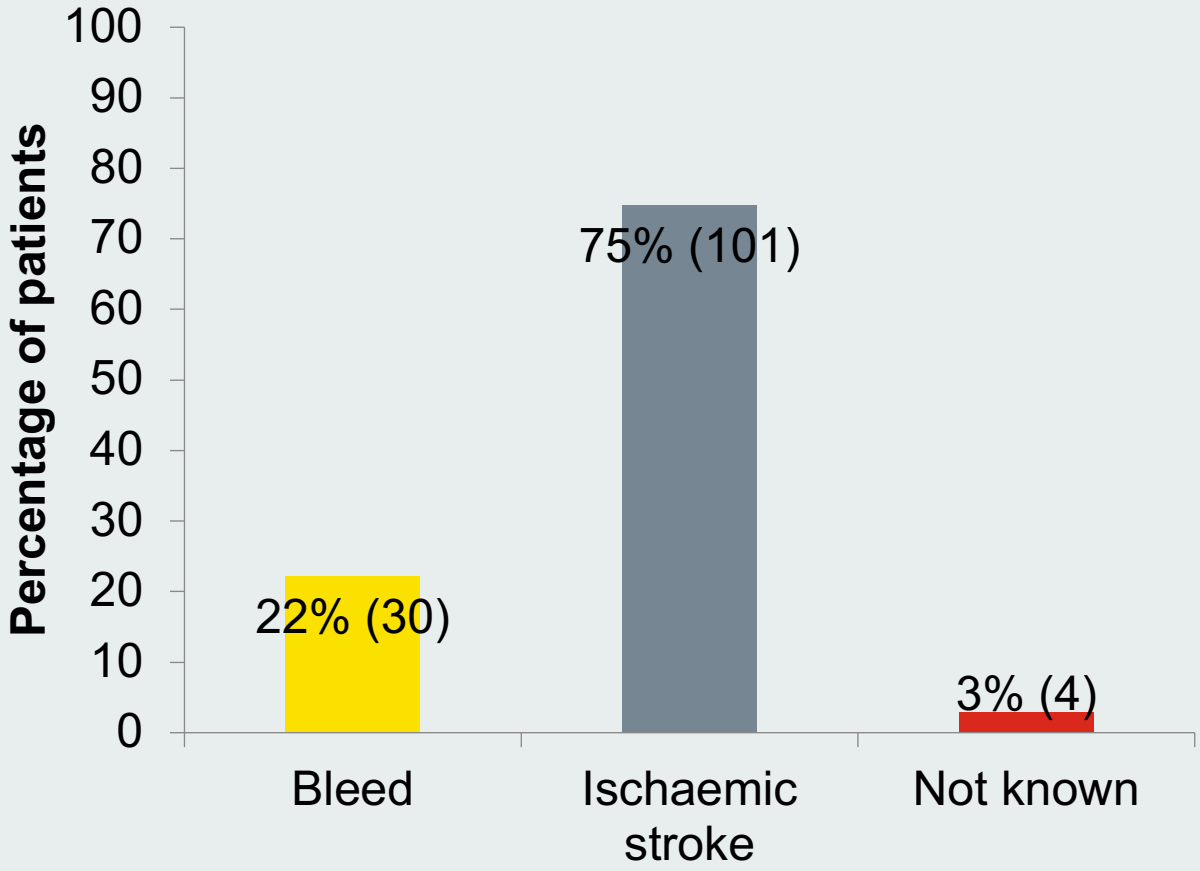
- Background – baseline data
- Overview of the GP pilot project
- Annual review
- Switching plans
- Project recruitment
- Results so far
- Conclusions and next steps

Background

- For 2016 = **335** potentially preventable anticoagulation related harm events.
- Harm events in the community currently unknown.
- Data doesn't include harm for patients where INR is in range or where on the correct dose of DOAC etc.

% of patients admitted with known AF presenting with either an ischaemic stroke or CNS bleed for 2016

- In total 135 patients with known AF were admitted to the RUH in 2016 with either an ischaemic stroke or CNS bleed.



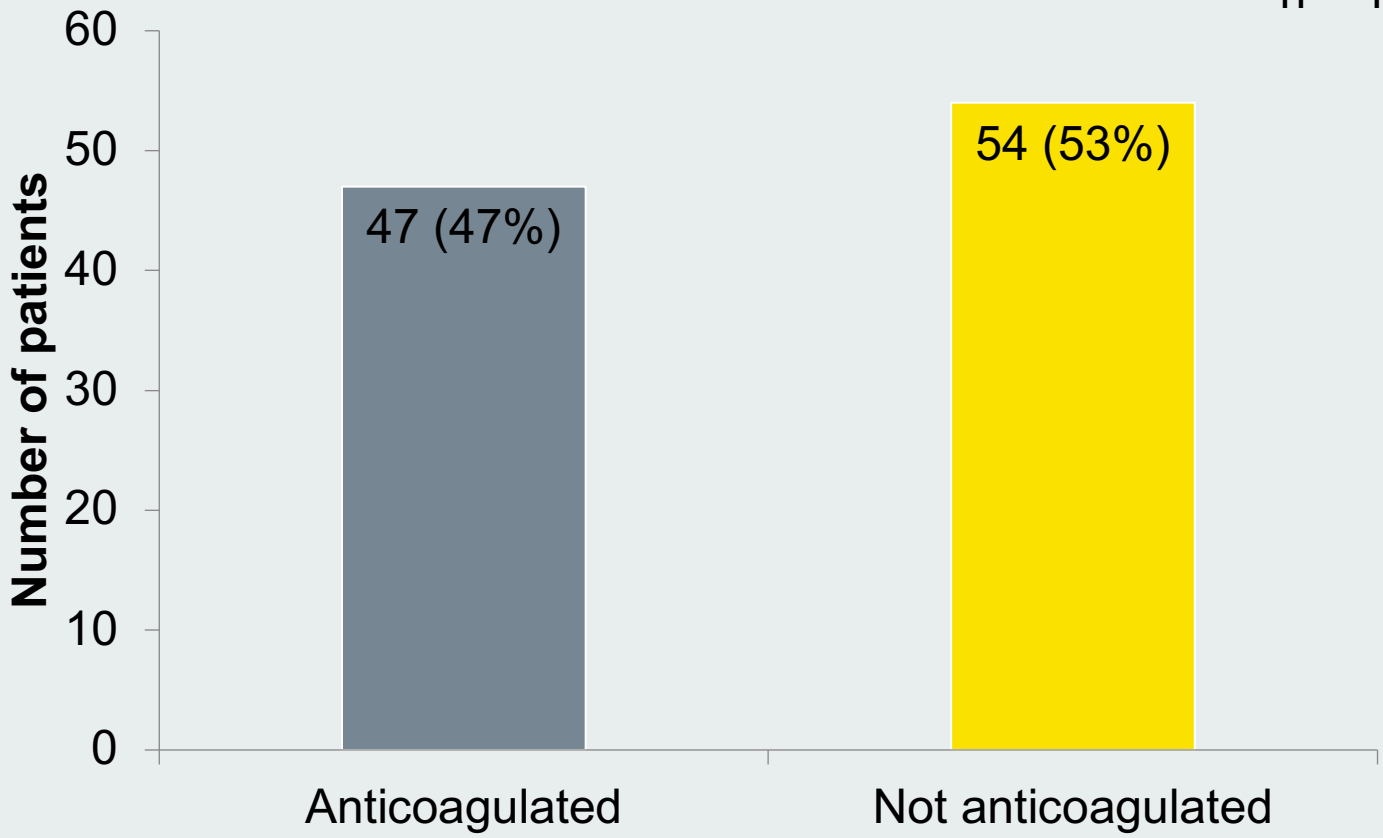
Impact

For patients with known AF admitted with either an ischaemic or CNS bleed:

- **1575** = Total number of days spent at the RUH
- **29 days** = Average length of stay (LOS)
- **20%** of patients died within first 4 weeks.

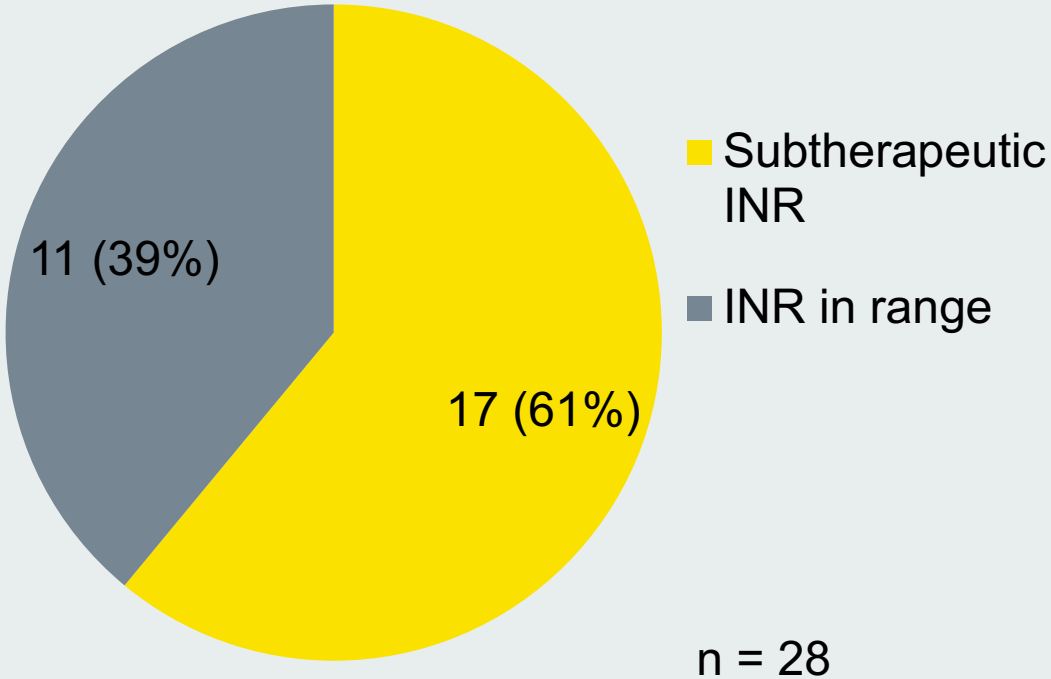
No. patients diagnosed with an ischaemic stroke who were already on anticoagulation

n = 101



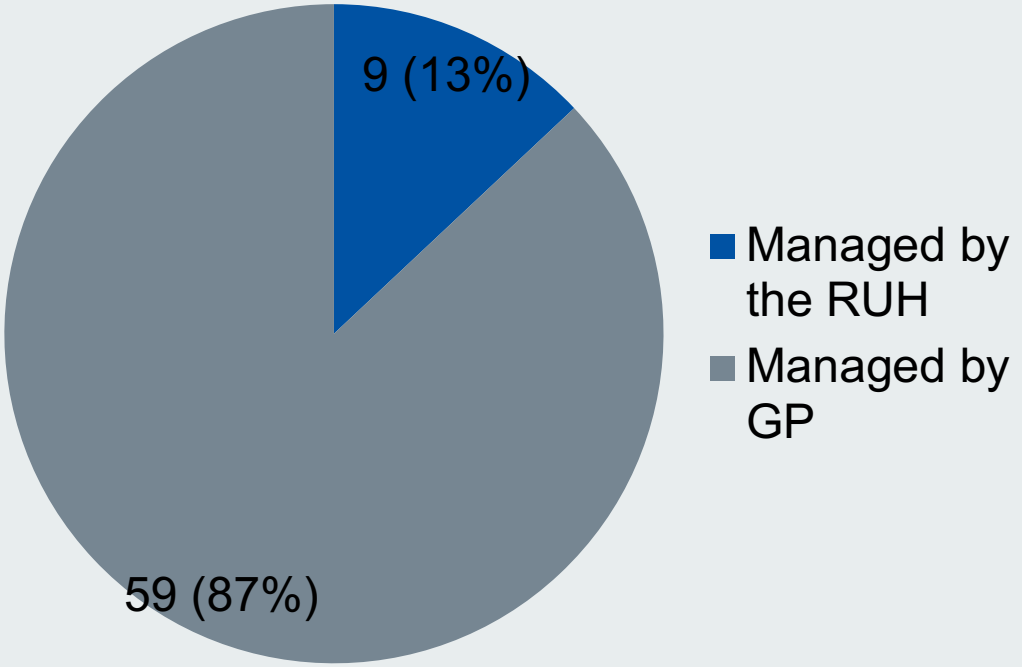
Number of patients on warfarin admitted with an ischaemic stroke and sub therapeutic INR

- 17 patients with a sub therapeutic INR
- 1 patient (6%) managed by the RUH, 16 (94%) managed by GP



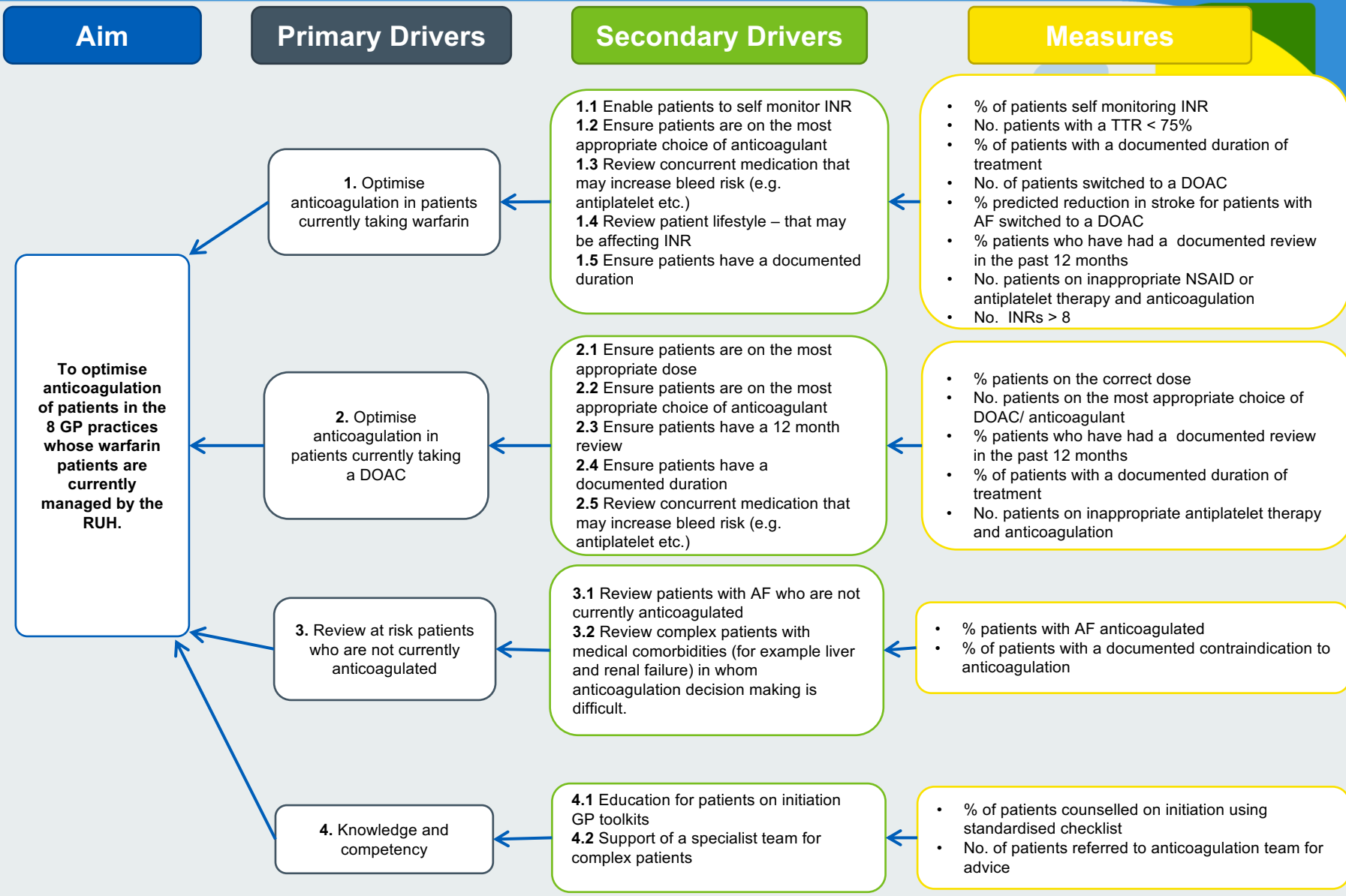
Hospital Admissions over 12 month period (2016) due to INR > 8

- 68 cases of community INR>8 leading to/contributing to hospital admission in 2016
- Admission duration = **1 to 73 days**
- Average length of stay = **14.2 days**



What can we change?

- **£1 million** spent on oral anticoagulation agents in BaNES (2016) – biggest increase in drug spend
- **£2 million** in avoidable admissions
- Need for a specialist service


Aim
Primary Drivers
Secondary Drivers
Measures
To optimise anticoagulation of patients in the 8 GP practices whose warfarin patients are currently managed by the RUH.
1. Optimise anticoagulation in patients currently taking warfarin
1.1 Enable patients to self monitor INR
1.2 Ensure patients are on the most appropriate choice of anticoagulant
1.3 Review concurrent medication that may increase bleed risk (e.g. antiplatelet etc.)
1.4 Review patient lifestyle – that may be affecting INR
1.5 Ensure patients have a documented duration
% of patients self monitoring INR
No. patients with a TTR < 75%
% of patients with a documented duration of treatment
No. of patients switched to a DOAC
% predicted reduction in stroke for patients with AF switched to a DOAC
% patients who have had a documented review in the past 12 months
No. patients on inappropriate NSAID or antiplatelet therapy and anticoagulation
No. INRs > 8
2. Optimise anticoagulation in patients currently taking a DOAC
2.1 Ensure patients are on the most appropriate dose
2.2 Ensure patients are on the most appropriate choice of anticoagulant
2.3 Ensure patients have a 12 month review
2.4 Ensure patients have a documented duration
2.5 Review concurrent medication that may increase bleed risk (e.g. antiplatelet etc.)
% patients on the correct dose
No. patients on the most appropriate choice of DOAC/ anticoagulant
% patients who have had a documented review in the past 12 months
% of patients with a documented duration of treatment
No. patients on inappropriate antiplatelet therapy and anticoagulation
3. Review at risk patients who are not currently anticoagulated
3.1 Review patients with AF who are not currently anticoagulated
3.2 Review complex patients with medical comorbidities (for example liver and renal failure) in whom anticoagulation decision making is difficult.
% patients with AF anticoagulated
% of patients with a documented contraindication to anticoagulation
4. Knowledge and competency
4.1 Education for patients on initiation GP toolkits
4.2 Support of a specialist team for complex patients
% of patients counselled on initiation using standardised checklist
No. of patients referred to anticoagulation team for advice

Anticoagulation annual review

- Review indication for anticoagulation
- Reassess thromboembolic risk
- Assess bleeding risk factors
- Review duration of anticoagulation
- Patient education, information, and decision support
- Assess medication adherence
- Complications related to anticoagulation treatment (check for possible ADRs)
- Review of alternative anticoagulant strategies if applicable
- Medicines optimisation (ensure that anti-platelets not concomitantly prescribed unless there is a definite reason as recommended by a named specialist).

London Clinical Networks. August 2016.

Warfarin:

- Assessment and documentation of TTR
- Assessment of INRs that fall outside of the therapeutic range
- Review possibility of self-monitoring of INR if applicable

DOACs:

- Renal +/- liver function as indicated
- Weight
- Rivaroxaban – food intake
- Dose

Switching plans

NHS
Royal United Hospitals Bath
NHS Foundation Trust

Anticoagulation Team
Royal United Hospital
Combe Park
Bath
BA1 3NG

Tel: 01225 825307

ruh-tr.AnticoagulationTeam@nhs.net
www.ruh.nhs.uk

Date

Patient Name:
Date of Birth:
MRN:
NHS number:

Dear NAME

This plan is for patients who are being switched from warfarin to apixaban

Apixaban is an example of a Direct Oral Anticoagulant (DOAC). These are an alternative group of drugs to warfarin, they are usually used for:

- Stroke prevention in Non-Valvular Atrial Fibrillation (AF)
- Treatment and Prevention of recurrent DVT and PE

Apixaban is also occasionally used for other indications.

Advantages vs. disadvantages of taking apixaban instead of warfarin

Advantages of taking apixaban	Disadvantages of taking apixaban
No common food/drink interactions	No reversal agent – However, the half-life of the drug, which is the time it takes for the amount of drug in your blood stream to reduce by half, is much shorter. Furthermore, the risk of major bleeding is much lower with apixaban compared to warfarin. In addition a reversal agent is also currently in development.
There is no frequent monitoring as with having an INR test	
Fewer drug-drug interactions	
Lower risk of major bleeding	Patients with renal disease may need more frequent blood testing.
No frequent dose changes	
The drug works quickly once taken and has a large therapeutic window	
You will have 6 or 12 monthly reviews to check liver function, full blood count and kidney function	

Apixaban – key facts

- Taken twice daily at either a 5mg or 2.5mg dose depending on renal function, weight and age.
- Can be put into a dossette box. If a dose is missed, the patient should take their dose immediately and then continue with twice daily intake as before.
- **For breastfeeding patients -** It is unknown whether apixaban is excreted in human milk.

More detailed information can be found in the patient information leaflet.

The Switching Plan

Your GP will issue a prescription for apixaban. The following plan should only be started after confirmation from the anticoagulation team. Until then you should cont. to take your warfarin as per normal and you should **not** start apixaban until told to do so.

Day 1	**Last dose** of warfarin
Day 2	**Stop** warfarin
Day 3	-
Day 4	INR check • If INR is **less than 2.0** you can start apixaban. If INR is too high to start new treatment, book an INR test for 2 days' time.

If you need any help or clarification with your switching plan please do not hesitate to contact us.

Anticoagulation Team
Royal United Hospital

Email: ruh-tr.AnticoagulationTeam@nhs.net

Tel: 01225825307
Tel: 01225821442

Project recruitment

Sept 2017 - 8 GP practices initially approached – currently provide INR monitoring service.

Participation agreed with 6 GP practices

Barriers to recruitment :

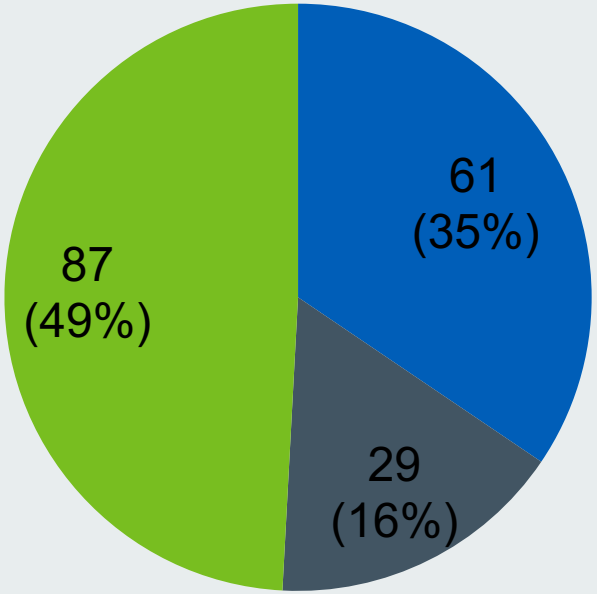
- Information governance
- Space allocation
- Practices merging

1. Optimise anticoagulation in patients currently taking warfarin

- Practice 1 (61/61 patients reviewed)
- Practice 2 (78/78 patients reviewed)
- Practice 3 (38/51 patients reviewed)

- Total no. patients reviewed so far = **177**
- Work ongoing with 3 GP surgeries (approx. n = 300)

Reviews

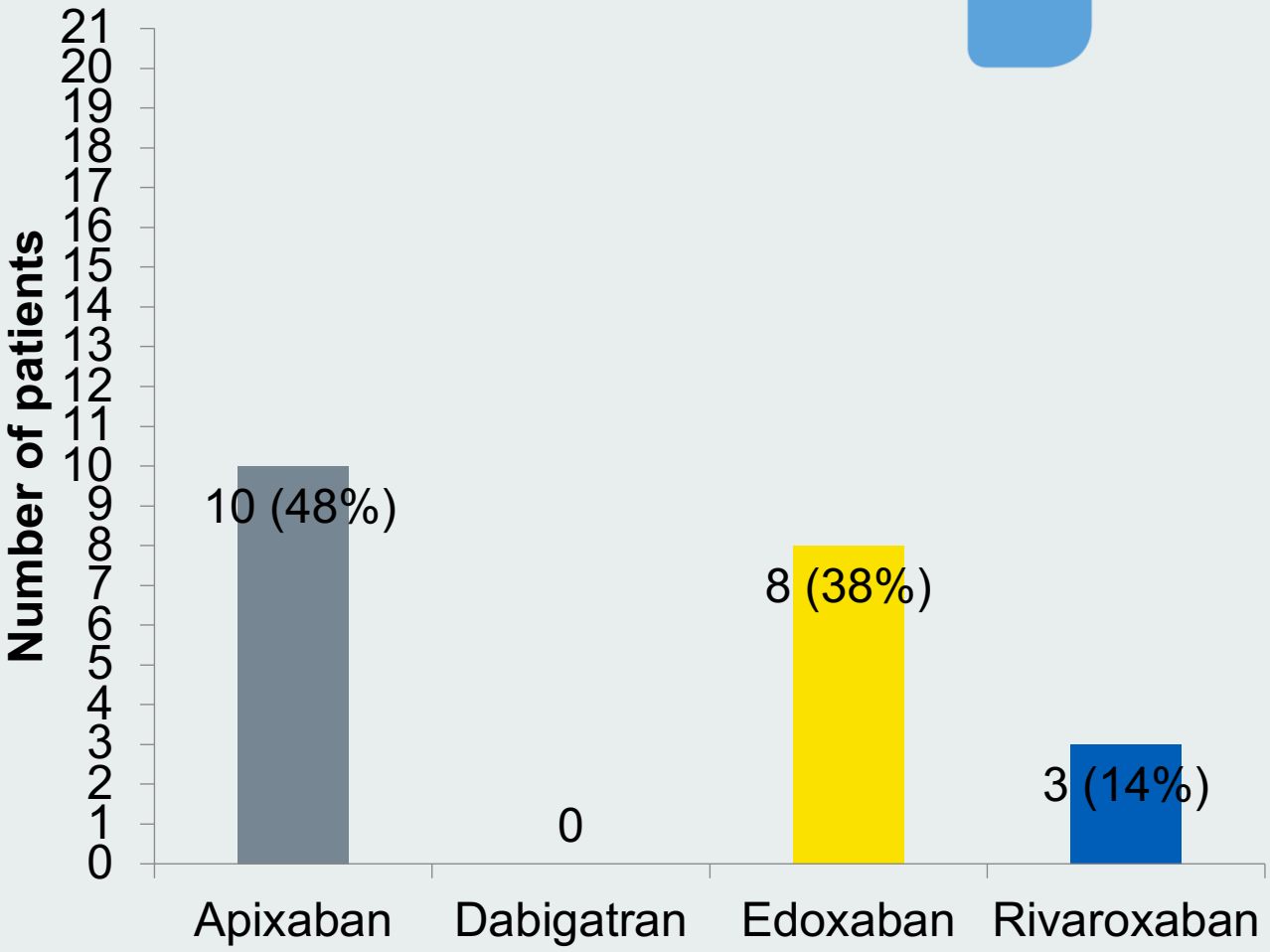


n = 177

- 20 minute review either face to face at the GP practice or over the telephone.
- If unable to contact a patient then a review was carried out without them and a recommendation made to the GP for follow up if needed.
- Reviews were carried out by either an anticoagulation nurse specialist or pharmacist.

No. patients switched to DOAC

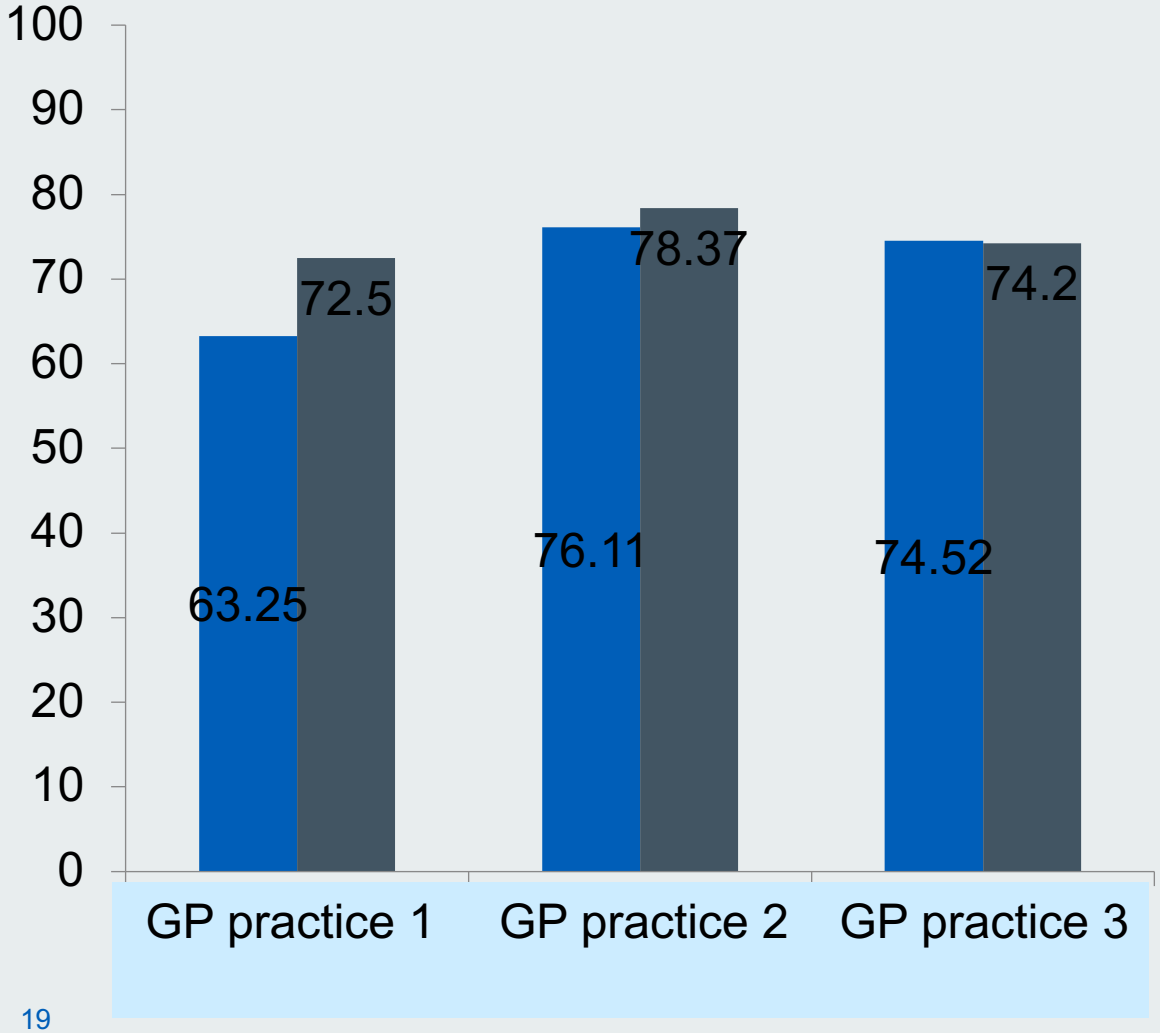
- n = 21 (out of 177 (12%))
- For patients reviewed without the patient present then 11 patients were referred to GP; to consider switching to a DOAC



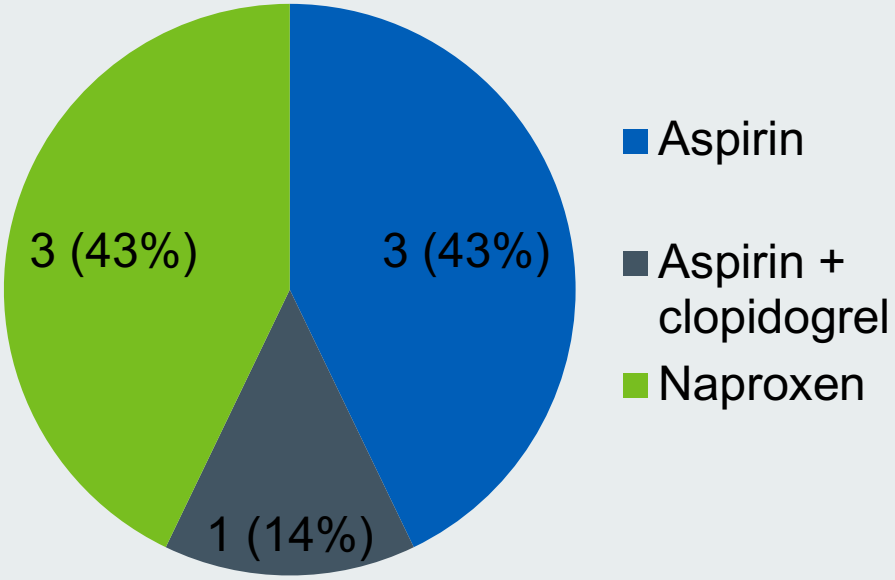
Reasons for not switching

- Time in therapeutic range (TTR) > 75% (unless patient preference for DOAC)
- Unlicensed indication for DOAC
- On warfarin with a higher INR range (e.g. 2.5 - 3.5)
- Patient preference
- Renal impairment
- GI bleeding risk
- Interacting medication

Average TTR for GP practice before and after reviews



No. patients on concomitant NSAIDs or antiplatelets



n = 7 (= 4% out of 177 patients on warfarin who were reviewed)

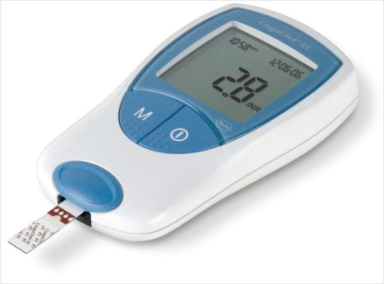
- For patients on concomitant NSAIDs or antiplatelet the GP was notified and a recommendation made.
- For patients on naproxen alternative analgesia was considered or a proton pump inhibitor added.
- If on aspirin for primary prevention, recommendation was to stop. If for secondary prevention and event was > 12 months ago then recommendation was stop or discuss with cardiology.

Indication and duration of treatment

- All patients reviewed had an appropriate duration of treatment documented.
- 2 patients were on anticoagulation without a clear indication. These were referred to the thrombosis clinic for review.

INR self-monitoring

- INR self monitoring was discussed as part of the review process where appropriate.
- This is not currently routinely available in the area.



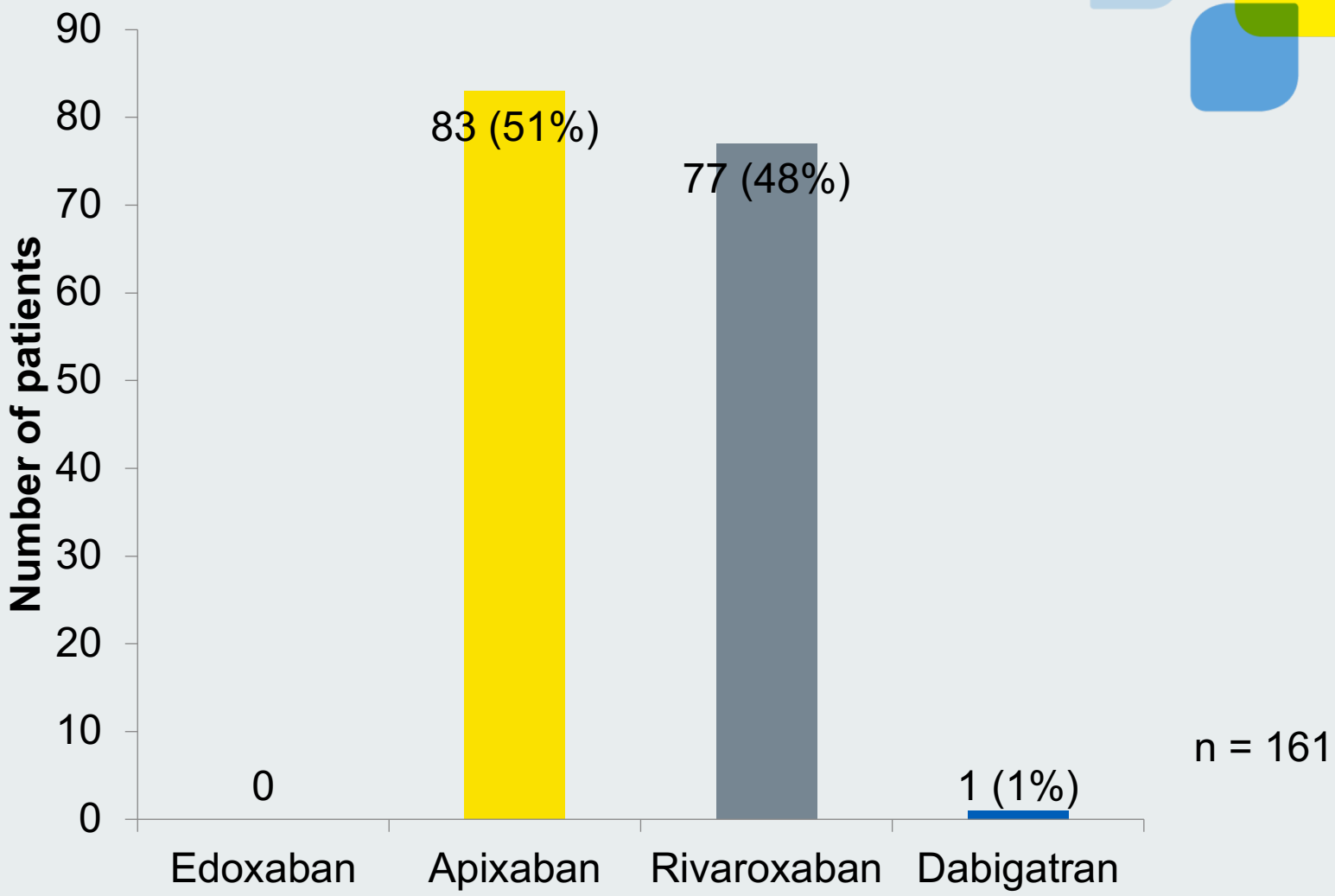
2. Optimise anticoagulation in patients currently taking a DOAC

Part 1: Review by Anticoagulation Nurse at GP practice without patient, using patients records to check choice of DOAC, dose, renal function, weight, concomitant medication etc.

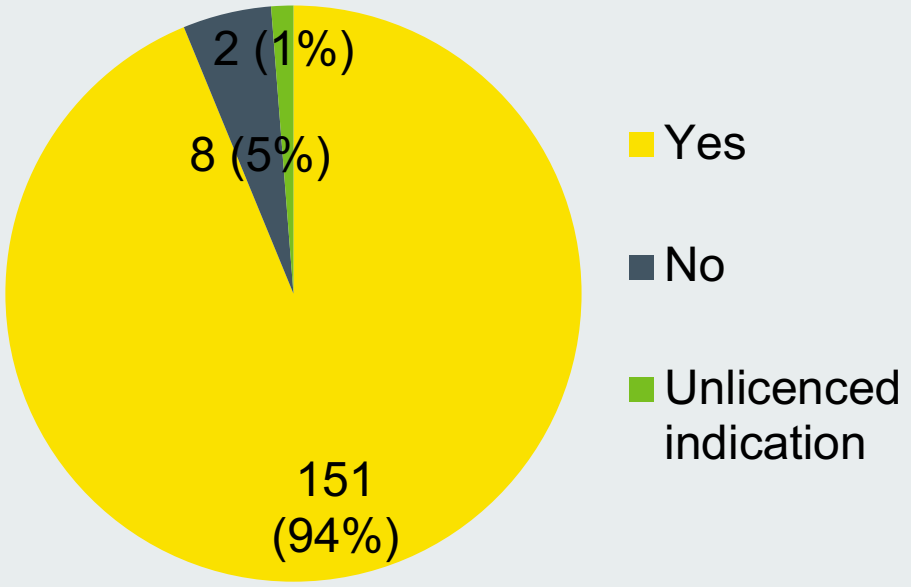
Part 2: Telephone call to patient by Anticoagulation Nurse or Anticoagulation Team member to check adherence, understanding, if taking with food (rivaroxaban), OTC/herbal medicines, side effects etc.

- Currently completed Part 1 for 161 patients at GP Practice 1.
- Part 2 currently underway for GP Practice 2.

Choice of DOAC



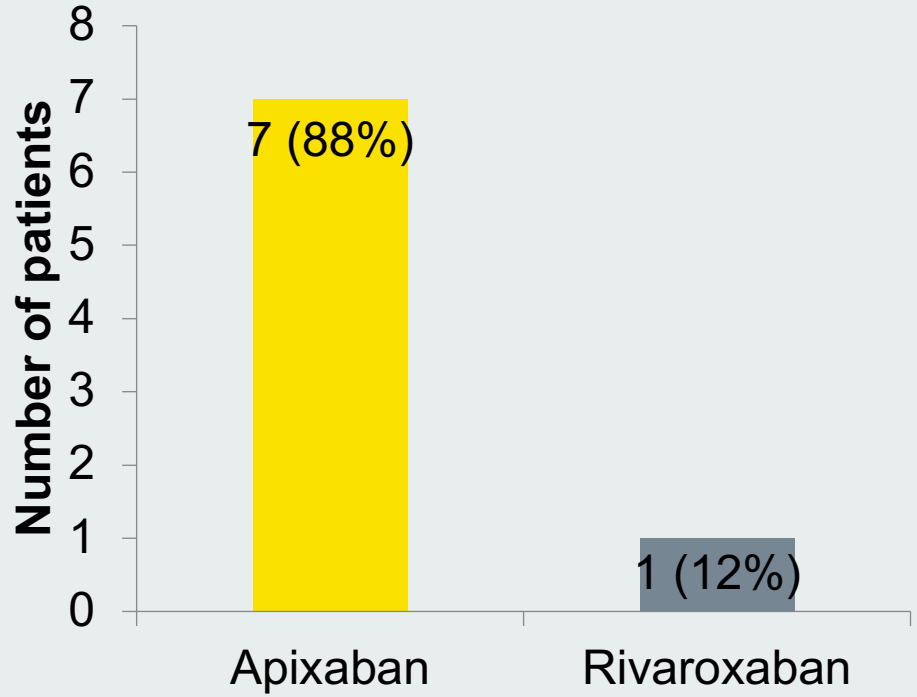
No. patients on the correct dose of DOAC



n = 161

- Correct dose defined as per summary of product characteristics (SPC) for each DOAC.
- 2 patients on an unlicensed indication for DOAC – documented in medical record.
- GP notified in each case to review dose.
- 5 patients were deemed on to be on the correct dose, but had a weight of > 120kg. To check anti-Xa levels.

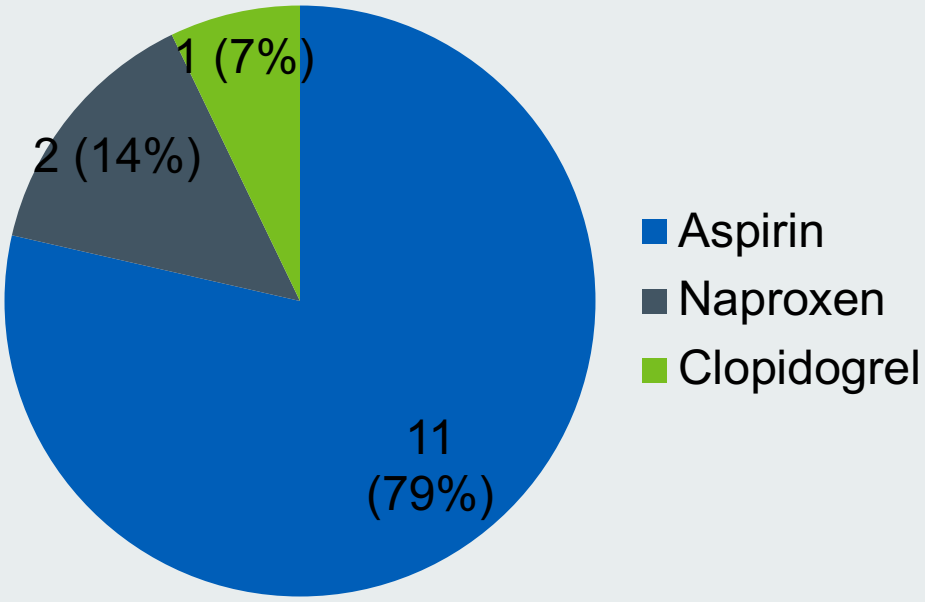
Patients on the incorrect dose of DOAC



n = 8

- 6 out of 7 patients incorrectly prescribed apixaban were on the lower dose of 2.5mg BD when they should have been on the higher dose of 5mg BD.
- 1 patient was on the lower dose of rivaroxaban (15mg OD) and should have been on the higher dose of 20mg OD.

No. patients on concomitant NSAIDs or antiplatelets



n = 14 (= 9% of patients prescribed a DOAC)

- Where patients were found to be on concomitant NSAIDs or antiplatelet medication the GP was notified and a recommendation made.
- For patients on naproxen then alternative analgesia was considered or addition of a proton pump inhibitor (PPI).
- For patients on aspirin then if on for primary prevention, recommendation was to stop. If on for secondary prevention and event was > 12 months ago then recommendation was stop or discuss with cardiology.

3. Review at risk patients who are not currently anticoagulated

- Currently part of the CCG prescribing incentive scheme with primary care
- GRASP-AF tool run every 6 months
- Identifies patients documented on GP system as having AF
- Patients who aren't anticoagulated are then reviewed by practice pharmacist and recommendations made to GP.
- Aim is for anticoagulation team at the RUH to provide support to the practice pharmacists and GPs when reviewing particularly difficult patients.

- AF screening tool funded by NHS England.

4. Knowledge and competency

- Support provided for GPs/ pharmacists and nurse practitioners
- Designated team to answer anticoagulation related queries.
- GP toolkits written (currently still in draft)
- Updated in house knowledge and training
- GP training day (June ’18)
- Southwest Haemostasis Group (May ‘18)

Conclusions so far…

- An annual anticoagulation review is beneficial in improving overall TTR.
- An annual anticoagulation review helps ensure patients are on the most appropriate choice of anticoagulant and includes patients in the decision making process.
- 5% of patients on DOACs were prescribed a sub therapeutic dose, putting them at an increased risk of thrombosis, highlighting the need for a annual anticoagulation review.
- 9% of patients prescribed a DOAC and 5% of patients prescribed warfarin were also prescribed an antiplatelet or putting the patient at an increased risk of bleeding. Decision making on stopping antiplatelets in primary care can be difficult and highlights the potential benefit from a review done by a specialist team.

Next steps

- Continue with reviews and data collection
- Patient experience team - feedback from GPs and patients
- Present to CCG
- Future projects
- Self monitoring
- Inpatient warfarin management
- Standardised counselling for initiation
- Bridging

RUH Anticoagulation Team

Tel: 01225 825307

Email: ruh-tr.AnticoagulationTeam@nhs.net