Summative Assessment
Audit Project
AUDIT TITLE: Aspirin and Warfarin prophylaxis of thromboembolism in elderly patients with Atrial Fibrillation.
What is the title of your audit project?
Aspirin and Warfarin prophylaxis of thromboembolism in elderly patients with Atrial Fibrillation (AF).

Why did you choose it?
Having seen the devastating impact of cerebrovascular accidents, and knowing that recent developments at attempting to standardise care and improve health outcomes have largely focussed on evidence-based medicine, I chose to look at the SIGN guidelines on antithrombotic therapy. I concentrated on the prophylaxis of systemic embolism in elderly patients with AF on acute medical wards. It has been shown that people with AF have a 5-fold increase in the risk of stroke compared to people in sinus rhythm. Deaths from stroke are also higher in the AF population.

Randomised controlled trials have demonstrated a considerable reduction in the risk of stroke for patients on aspirin or warfarin compared with no antithrombotic treatment. The aim was therefore to ensure patients with AF were on aspirin or warfarin as appropriate and produce a clear protocol for the department. Such a protocol would also be relevant to general practice where initiation and monitoring of anticoagulant treatment often occurs. 5,6

Which criteria have you chosen?
1. All patients with AF should be on aspirin or warfarin.
2. For patients not on warfarin, there should be documentation as to the reasoning behind this decision.

Why did you choose them?
These criteria were chosen because randomised controlled trials have shown a relative risk reduction for stroke of 68% for patients on warfarin' with a 20% risk reduction for those on aspirin.

The second criterion focused on warfarin because warfarin is significantly more effective than aspirin as prophylaxis.

What standards have you set?
The following standards were set:
- 95% of patients with AF will be on warfarin or aspirin on discharge from the elderly medicine unit.
• 50% of patients with AF not on warfarin on discharge from the elderly medicine unit will have adequate documentation as to the reasoning behind this. This would be achieved over a period of one year.

Why did you choose these standards?
I chose these standards after discussion with consultants in Care of the Elderly. A high 95% standard was chosen for the first criterion as stroke causes significant morbidity and mortality. The standard would not be 100% as some patients would have contraindications to aspirin or warfarin.

A lower standard was chosen for adequate documentation as many clinicians would make their prescribing decision without writing their reasoning down.

One year was given to achieve these standards as implementation of change involved discussion and reorganisation within the department. Additionally, as patients' length of admission was fairly lengthy, I felt this would be a reasonable timeframe to implement change and to judge the effectiveness of these changes.

What preparation and planning did you undertake for your audit project?
I read the SIGN guidelines and with the help of the hospital librarian I obtained relevant articles selected using Medline.
I discussed the audit planning with one of the consultants and performed a pilot audit using 10 case notes of patients with AF.
With the aid of staff from medical records, I obtained casenotes of patients discharged over the previous quarter from the acute geriatric receiving wards and selected these patients with documented evidence of AF, e.g. an ECG.
I then determined from the notes whether each patient was on warfarin, aspirin or neither, and for those not on warfarin, tried to discover if the reasoning behind the decision was documented or appeared obvious. I used the checklist (Appendix 1) to obtain the relevant data.

First data collection, January 2000
The first data collection was a retrospective casenote analysis of the preceding three months.
45 patients with AF were identified.
• 7 were on warfarin.
• 25 were on aspirin.
• 13 were on neither.
Out of 25 on aspirin, 14 appeared to have a contra-indication to warfarin (e.g. tendency to fall, cognitive impairment, danger of poor compliance, alcohol problems, etc.) This left 11 patients on aspirin who may have been candidates for warfarin.

Of the 13 on neither, 3 appeared to have contra-indications to warfarin. Therefore, 10 patients were on neither with no documented reason.

Of the 38 patients not on warfarin, 17 appeared to have documented contra-indications to the drug.

How does this compare with your standards?

- Percentage of patients with AF on warfarin or aspirin on discharge from the elderly medicine unit:

![Percentage of patients with AF on warfarin or aspirin on discharge from the elderly medicine unit](image1)

- Percentage of patients with AF not on warfarin on discharge from the elderly medicine unit with adequate documentation as to the reasoning behind this:

![Percentage of patients with AF not on warfarin on discharge from the elderly medicine unit with adequate documentation](image2)
What changes are you implementing?
Within the department we had a clinical meeting with consultants, junior medical staff and nursing staff to discuss the findings and draw up a checklist to be added to the set of clerk-in documentation (see Appendix 2). The ward clerkess would be responsible for maintaining adequate supplies.

Second Data Collection, January 2001
The second data collection was also a retrospective casenote analysis of the preceding three months.

52 patients with AF were identified.
- 16 were on warfarin.
- 30 were on aspirin.
- 6 were on neither.

Of the 30 on aspirin, 27 had documented contra-indications to warfarin; 3 had no reasons (checklist not filled in).

Of the 6 on neither, 4 had documented contra-indications to warfarin; 2 had no reasons (checklist not filled in).

Of the 36 patients not on warfarin, 31 had documented contra-indications to the drug.

Compare with first data collection and standards
- Percentage of patients with AF on warfarin or aspirin on discharge from the elderly medicine unit:

![Graph showing data](image)

As can be seen in the above graph, there has been a significant improvement but the results are still below the standard.
The second data collection showed, however, that the checklist was not completed for 14% of patients not on warfarin. This may be improved by having the checklist as an integral part of the check-in sheet rather than a supplementary document.

To ensure improvements are maintained, there needs to be ongoing education as staff will change over time in a hospital unit.

Limitations with the audit included not having the time or resources to distinguish between valvular or non-valvular AF or to consider high/low risk patients.

The audit highlighted the amount of work involved in manually analysing notes and confirmed the importance of record keeping.

Although an increase in the number of patients on antithrombotic therapy was demonstrated, it remains to be seen if this is translated into a reduction in morbidity and mortality in our population.

This raises the issue of future audit aims, for example, looking at the number of patients admitted with AF and CVA.

Finally, it has been shown that audit is an effective tool for changing clinical working practices.
References
Appendix 1: Checklist for collecting data

Investigation of antithrombotic treatment for patients with AF

Unit Number:

1. Patient on warfarin  □ Yes  □ No
2. Patient on aspirin    □ Yes  □ No
3. Patient on neither   □ Yes  □ No

4. If patient not on warfarin, state reasons for this:

[Blank space for notes]
Appendix 2: Antithrombotic therapy in patients with AF

Please complete for patients with AF:

Is the patient on warfarin, aspirin or neither?
☐ warfarin  ☐ aspirin  ☐ neither

For patients not on warfarin, indicate reason:
☐ tendency to fall
☐ cognitive impairment
☐ compliance problems
☐ increased risk of bleeding
☐ other (please state below):

[Blank lines for additional notes]