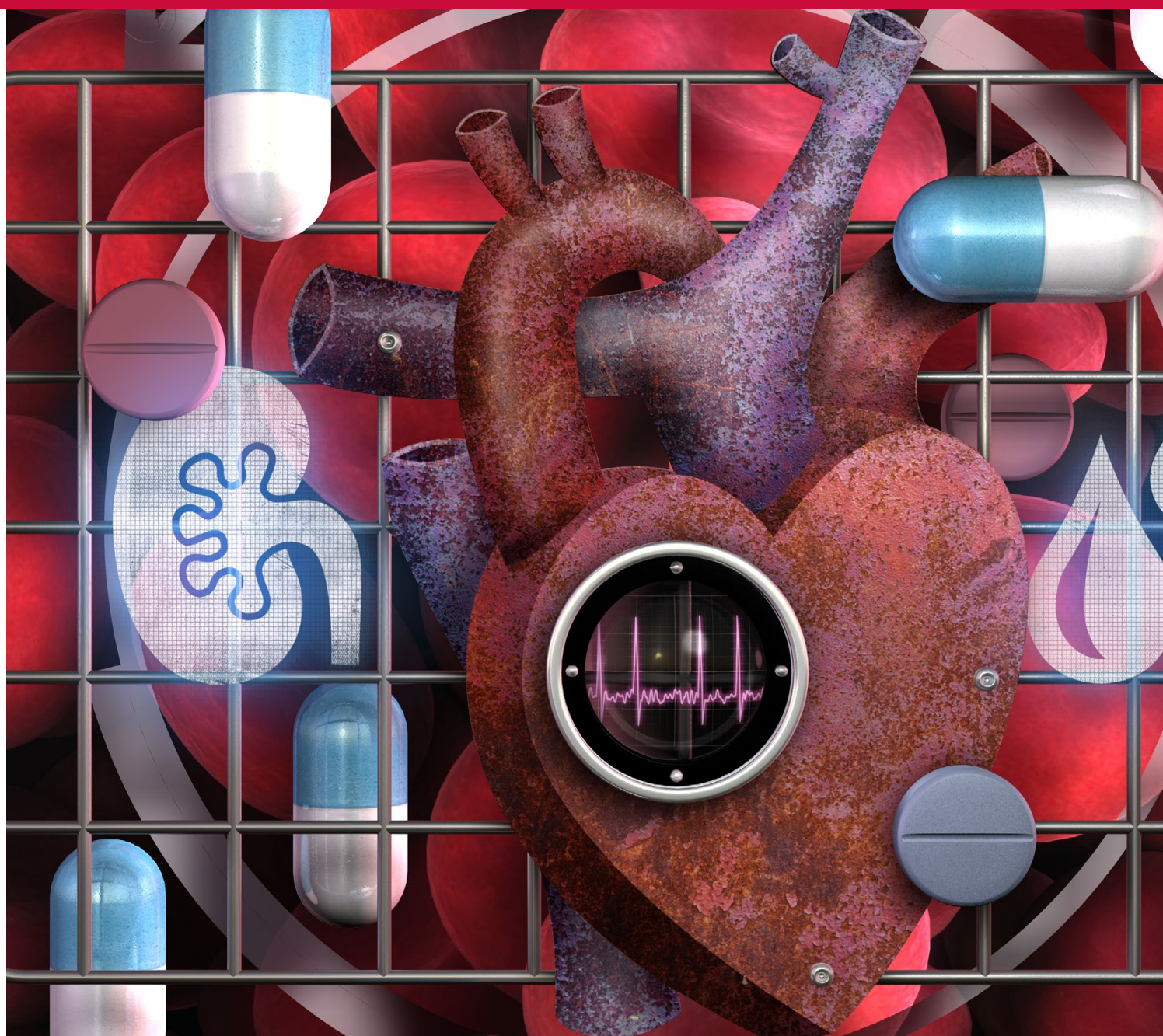


CLINICAL AUDIT

# Reviewing the use of **anticoagulants** in **patients** with **atrial fibrillation**



Valid to September 2027


## Audit focus

This audit helps primary care health professionals optimise the management of stroke risk in patients with atrial fibrillation (AF) in their practice. The aim is to ensure that patients with AF have their stroke risk managed appropriately according to their current risk of stroke.

## Background

Atrial fibrillation affects 5% of people in New Zealand aged over 65 years, and 11% aged over 75 years.<sup>1</sup> People with atrial fibrillation have a four to five-fold increased risk of stroke.<sup>2</sup>

The use of anticoagulants in people with AF significantly reduces the risk of stroke (Figure 1) as well as mortality, with greater benefits expected in people at higher risk. The risk of stroke increases according to age, sex and co-morbidities. The CHA<sub>2</sub>DS<sub>2</sub>-VASc score can be used to quantify the risk of stroke in patients with AF (Table 1). In New Zealand it is estimated that 40% of patients with AF who are likely to benefit from an anticoagulant are not prescribed one.<sup>1</sup> Many of these patients are prescribed antithrombotic medicines, such as aspirin or clopidogrel, however, these are no longer recommended for reducing stroke risk in patients with AF.<sup>3,4</sup>

 For an online CHA<sub>2</sub>DS<sub>2</sub>-VASc calculator, see: [www.chadsvasc.org](http://www.chadsvasc.org)


## Recommendations

### Treatment options depending on stroke risk

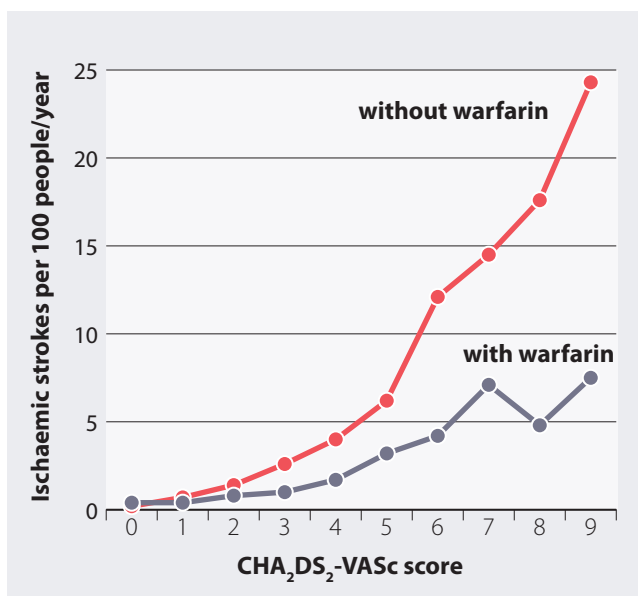
Patients with the lowest CHA<sub>2</sub>DS<sub>2</sub>-VASc risk scores for their sex (zero for males, one for females) should not use an anticoagulant. These scores correspond with rates of ischaemic stroke less than 1 per 100 people year; such patients are unlikely to benefit from anticoagulant (or antiplatelet) use and be exposed to unnecessary risks.<sup>5</sup>

Anticoagulation should be considered for all patients with risk scores  $\geq 2$ ; males with a risk score of one may also benefit from anticoagulation.<sup>3</sup> Direct oral anticoagulants (DOACs), e.g. dabigatran or rivaroxaban, are generally favoured over vitamin K analogues, e.g. warfarin.\*<sup>3</sup> DOACs have been shown to have comparable or reduced relative risk of major bleeding events, compared to warfarin, without the need for regular international normalised ratio (INR) monitoring, and with fewer food and medicine interactions.<sup>3</sup>

\* N.B. Warfarin is preferred in certain patient groups, e.g. those with a creatinine clearance  $< 30$  mL/min, an elevated bleeding risk (high HAS-BLED score), prosthetic heart valve, moderate-to-severe mitral stenosis or who are currently pregnant (avoid in first trimester and two-to-four weeks before delivery; a low molecular weight heparin is an alternative anticoagulant option during pregnancy).<sup>3,6,7</sup>

 For further information, see: “Re-thinking the management of atrial fibrillation” and “An update on managing patients with atrial fibrillation”

**Figure 1:** Rates of ischaemic stroke in patients with atrial fibrillation with and without the use of warfarin across CHA<sub>2</sub>DS<sub>2</sub>-VASc scores. Data from Allan *et al.*<sup>5</sup>



**Table 1:** Using the CHA<sub>2</sub>DS<sub>2</sub>-VASc score to guide anticoagulant prescribing for patients with atrial fibrillation<sup>3,6</sup>

Risk factor for stroke	Points	
Congestive heart failure	1	
Hypertension or current antihypertensive medicine use	1	
Aged 75 years or over	2	
Diabetes mellitus	1	
Stroke, transient ischaemic attack or thromboembolism	2	
Vascular disease	1	
Aged 65–74 years	1	
Sex category	1 if female	
<b>Total</b>	<b>0 – 8 for males</b>	<b>1 – 9 for females</b>
Offer anticoagulation to patients with scores	$\geq 1$ for males	$\geq 2$ for females



# Plan

## Summary

This audit identifies patients with AF in order to assess whether their use of anticoagulants is appropriate for their current stroke risk.

## Recommended audit standards

Ideally, all patients who can benefit from using an anticoagulant, i.e. with a CHA<sub>2</sub>DS<sub>2</sub>-VASc score  $\geq 2$  for females or  $\geq 1$  for males, should either be prescribed a DOAC (i.e. dabigatran or rivaroxaban) or have a documented reason why not. Patients at low risk, i.e. CHA<sub>2</sub>DS<sub>2</sub>-VASc scores below these thresholds, should not be prescribed an anticoagulant.

## Data

### Identifying eligible patients

You will need to have a system in place that allows you to identify patients with AF. Many practices will be able to do this by running a “query” through their PMS.

### Sample size

The sample size is ideally all patients in the practice with a diagnosis of AF, but if this number is too large, a sample size of 30 patients is sufficient for the purpose of the audit. However, it is recommended that all eligible patients are reviewed subsequently.

### Review of stroke risk

#### Criteria for a positive result

A positive result is if a patient with AF fits into one of the following categories:

- A. They are prescribed a DOAC, and this remains appropriate
- B. They are not prescribed a DOAC and this is appropriate:
  - i. Due to contraindications

- ii. As they do not require one, based on a recent review of their stroke risk (see below)
- iii. Due to patient preference, i.e. anticoagulation was recommended based on their current stroke risk but after an informed discussion, treatment was declined
- iv. As they are taking warfarin instead and there is clinical justification, e.g. CrCl  $< 30$  mL/min, high HAS-BLED score, prosthetic heart valve, mitral stenosis, pregnancy

It is recommended that a patient’s stroke risk should be reviewed:<sup>4</sup>

- When they reach the age of 65 years
- When they develop additional risk factors for stroke, such as diabetes, heart failure or coronary heart disease
- Annually if they are not prescribed an anticoagulant due to contraindications, bleeding risks or patient preference

**Review patients** not taking any anticoagulant to see if they would benefit from starting one, e.g. check if they have had a recent review of their stroke risk, and whether any factors have changed in their clinical condition or preference for treatment. Review patients taking warfarin without clinical justification to see if they would benefit from being switched to a DOAC.

## Identifying opportunities for Audit of Medical Practice

The first step to improving medical practice is to identify the criteria where gaps exist between expected and actual performance and then to decide how to change practice.

Once a set of priorities for change have been decided on, an action plan should be developed to implement any changes.

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## References

1. Tomlin AM, Lloyd HS, Tilyard MW. Atrial fibrillation in New Zealand primary care: prevalence, risk factors for stroke and the management of thromboembolic risk. *Eur J Prev Cardiol* 2017;24:311–9. doi:10.1177/2047487316674830.
2. Fanaroff AC, Ohman EM. Non-vitamin K antagonist oral anticoagulants in the treatment of atrial fibrillation. *Annu Rev Med* 2019;70:61–75. doi:10.1146/annurev-med-042617-092334.
3. Brieger D, Amerena J, Attia J, et al. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the diagnosis and management of atrial fibrillation 2018. *Heart, Lung and Circulation* 2018;27:1209–66. doi:10.1016/j.hlc.2018.06.1043.
4. National Institute for Health Care Excellence (NICE). Atrial fibrillation: diagnosis and management. 2021. Available from: <https://www.nice.org.uk/guidance/ng196> (Accessed Sep, 2022).
5. Allan V, Banerjee A, Shah AD, et al. Net clinical benefit of warfarin in individuals with atrial fibrillation across stroke risk and across primary and secondary care. *Heart* 2017;103:210–8. doi:10.1136/heartjnl-2016-309910.
6. Cheung CC, Nattel S, Macle L, et al. Management of atrial fibrillation in 2021: an updated comparison of the current CCS/CHRS, ESC, and AHA/ACC/HRS guidelines. *Canadian Journal of Cardiology* 2021;37:1607–18. doi:10.1016/j.cjca.2021.06.011.
7. Mekaj A, Mekaj Y, Duci S, et al. New oral anticoagulants: their advantages and disadvantages compared with vitamin K antagonists in the prevention and treatment of patients with thromboembolic events. *Therapeutics and Clinical Risk Management* 2015;;967. doi:10.2147/TCRM.S84210.

## Taking action

It may be useful to consider the following points when developing a plan for action (RNZCGP 2002).

### Problem solving process

- What is the problem or underlying problem(s)?
- Change it to an aim
- What are the solutions or options?
- What are the barriers?
- How can you overcome them?

### Overcoming barriers to promote change

- Identifying barriers can provide a basis for change
- What is achievable – find out what the external pressures on the practice are and discuss ways of dealing with them in the practice setting
- Identify the barriers
- Develop a priority list
- Choose one or two achievable goals

### Effective interventions

- No single strategy or intervention is more effective than another, and sometimes a variety of methods are needed to bring about lasting change
- Interventions should be directed at existing barriers or problems, knowledge, skills and attitudes, as well as performance and behaviour

## Review

### Monitoring change and progress

It is important to review the action plan developed previously against the timeline at regular intervals. It may be helpful to review the following questions:

- Is the process working?
- Are the goals for improvement being achieved?
- Are the goals still appropriate?
- Do you need to develop new tools to achieve the goals you have set?

Following the completion of the first cycle, it is recommended that the doctor completes the first part of the Audit of Medical Practice summary sheet (Appendix 1).

## Undertaking a second cycle

In addition to regular reviews of progress with the practice team, a second audit cycle should be completed in order to quantify progress on closing the gaps in performance.

It is recommended that the second cycle be completed within 12 months of completing the first cycle. The second cycle should begin at the data collection stage. Following the completion of the second cycle it is recommended that practices complete the remainder of the Audit of Medical Practice summary sheet.



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### Claiming credits for Te Whanake CPD programme

This audit has been endorsed by the RNZCGP for CPD purposes for General Practitioners and can be claimed towards the Patient Outcomes (Improving Patient Care and Health Outcomes) learning category of the Te Whanake CPD programme, on a credit per learning hour basis. General practitioners are encouraged to discuss the outcomes of the audit with their peer group or practice; this may also be recorded as a reflection if suitable.

To claim points go to the RNZCGP website:  
[www.rnzcgp.org.nz](http://www.rnzcgp.org.nz)

The RNZCGP encourages that evidence of participation in the audit be attached to your recorded activity. Evidence can include:

1. A summary of the data collected
2. An Audit of Medical Practice (CQI) Activity summary sheet (Appendix 1 in this audit or available on the RNZCGP website)



The Royal New Zealand  
College of General Practitioners  
Te Whare Tohu Rata o Aotearoa

**Endorsed CPD Activity**

**bpac<sup>nz</sup>**

PO Box 6032, Dunedin

Phone 03 477 5418

[contact@bpac.org.nz](mailto:contact@bpac.org.nz)



[www.bpac.org.nz/audits](http://www.bpac.org.nz/audits)

## Data sheet – cycle 1 Reviewing the use of anticoagulants in patients with atrial fibrillation

Patient with atrial fibrillation	A review of patient records reveals:					Flagged for review  i.e. No tick in Box A or Box B
	A. Patient is taking a DOAC (dabigatran or rivaroxaban)	B. Patient is not taking a DOAC				
		i. Due to a documented contraindication	ii. As they do not require one, based on a review of their stroke risk, e.g. a documented CHA <sub>2</sub> DS <sub>2</sub> -VASC score within the last 12 months	iii. Due to patient preference, i.e. anticoagulation was recommended based on their current stroke risk but after an informed discussion within the last 12 months, treatment was declined	iv. As they are taking warfarin instead AND there is clinical justification, e.g. CrCl < 30mL/min, high HAS-BLED score, prosthetic heart valve, mitral stenosis, pregnancy	
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Please retain this sheet for your records to provide evidence of participation in this audit.

## Data sheet – cycle 2 Reviewing the use of anticoagulants in patients with atrial fibrillation

Patient with atrial fibrillation	A review of patient records reveals:					Flagged for review  i.e. No tick in Box A or Box B
	A. Patient is taking a DOAC (dabigatran or rivaroxaban)	B. Patient is not taking a DOAC				
		i. Due to a documented contraindication	ii. As they do not require one, based on a review of their stroke risk, e.g. a documented CHA <sub>2</sub> DS <sub>2</sub> -VASC score within the last 12 months	iii. Due to patient preference, i.e. anticoagulation was recommended based on their current stroke risk but after an informed discussion within the last 12 months, treatment was declined	iv. As they are taking warfarin instead AND there is clinical justification, e.g. CrCl < 30mL/min, high HAS-BLED score, prosthetic heart valve, mitral stenosis, pregnancy	
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Please retain this sheet for your records to provide evidence of participation in this audit.



## SUMMARY SHEET

### Audit of medical practice (CQI activity)

Topic:

Reviewing the use of anticoagulants in patients with atrial fibrillation

Date:

Activity designed by (name of organisation, if relevant):

Bpac<sup>nz</sup>

Doctor's name:

Results discussed with peer group or colleagues?

Yes

No

Date:

### FIRST CYCLE

**DATA:** Date of data collection:

**CHECK:** Describe any areas targeted for improvement as a result of analysing the data collected. (If the findings have any implications for health equity, please include this.)

**ACTION:** Describe how these improvements will be implemented.

**MONITOR:** Describe how well the process is working. When will you undertake a second cycle?

## SECOND CYCLE

**DATA:** Date of data collection:

**CHECK:** Describe any areas targeted for improvement as a result of analysing the data collected. (If the findings have any implications for health equity, please include this.)

**ACTION:** Describe how these improvements will be implemented.

**MONITOR:** Describe how well the process is working.

**COMMENTS:**