Complete Summary

GUIDELINE TITLE

The management of people with atrial fibrillation and flutter.

BIBLIOGRAPHIC SOURCE(S)

New Zealand Guidelines Group (NZGG). The management of people with atrial fibrillation and flutter. Wellington (NZ): New Zealand Guidelines Group (NZGG); 2005 May. 177 p. [422 references]

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- August 16, 2007, Coumadin (Warfarin): Updates to the labeling for Coumadin to include pharmacogenomics information to explain that people's genetic makeup may influence how they respond to the drug.
- October 6, 2006, Coumadin (warfarin sodium): Revisions to the labeling for Coumadin to include a new patient Medication Guide as well as a reorganization and highlighting of the current safety information to better inform providers and patients.

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SCOPE

DISEASE/CONDITION(S)

Atrial fibrillation and atrial flutter

GUIDELINE CATEGORY

Evaluation
Management
Risk Assessment
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine
Pulmonary Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To provide an evidence-based summary of effective practice in the assessment and management of atrial fibrillation (AF) and atrial flutter (AFL) in New Zealand
- To assist and provide guidance to general practitioners and specialists involved in the care of people with atrial fibrillation and atrial flutter, including general physicians, cardiologists, neurologists, geriatricians, stroke specialists, haematologists, and emergency room staff

TARGET POPULATION

Persons with atrial fibrillation or atrial flutter

Note: This guideline specifically excludes consideration of atrial fibrillation occurring after cardiac and other surgery.

INTERVENTIONS AND PRACTICES CONSIDERED

Clinical Evaluation

1. Patient history
2. Clinical examination
3. Electrocardiograph (ECG)
4. Transthoracic echocardiogram (TTE)

5. Blood tests (thyroid function (with thyroid stimulating hormone [TSH]), renal function (creatinine), International Normalized Ratio (INR) (pre-warfarin)
6. Additional testing, as indicated: chest x-ray, exercise tolerance test, 24-hour Holter monitoring, electrophysiological testing, transoesophageal echocardiogram (TOE)

Management and Treatment

1. Prevention of thromboembolism
    - Thromboembolic risk assessment
    - Antithrombotic treatment (warfarin, aspirin)
2. Rate control (non-acute and acute)
    - Beta-blockers (atenolol, carvedilol, metoprolol, nadolol, propranolol, esmolol)
    - Other pharmacological agents (verapamil, diltiazem, digoxin, amiodarone)
    - Combined atrioventricular (AV) nodal ablation and pacing
3. Rhythm control
    - Electrical cardioversion
    - Pharmacological cardioversion (amiodarone, flecainide, propafenone)
    - Pharmacological maintenance of sinus rhythm (amiodarone, disopyramide, flecainide, propafenone and sotalol)
    - Nonpharmacological maintenance of sinus rhythm (pacemaker implantation, atrial defibrillator implantation, ablation including catheter ablation in and around the pulmonary veins, catheter ablation of atrial flutter [AFL] and accessory pathways, and surgical ablation)

MAJOR OUTCOMES CONSIDERED

- Rate and rhythm control
- Symptom control
- Morbidity and mortality
- Quality of life
- Risk of thromboembolic complications
- Adverse events associated with treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

To ensure that all relevant current evidence was identified, comprehensive searches were performed using the clinical questions identified prior to and during the first Guideline Development Team meeting. These clinical questions are contained in Appendix B of the original guideline document. The 2001 American College of Cardiology (ACC)/American Heart Association (AHA)/European Society of cardiology (ESC) Guideline (which the Guideline Development Team had agreed

to adapt for the New Zealand setting) was based upon analysis of data published prior to mid-2000. In order to ensure that no evidence was missed, the adaptation of this guideline focused primarily on evidence published from 1998 to 2003, with the last search being undertaken in March 2004. In order to avoid the substantial costs and delays associated with translating foreign language publications, only English language articles were used.

The search strategies for the guideline are available online at www.nzgg.org.nz (click on 'Guidelines/Publications' then 'Cardiology' then the Guideline title, then 'Search Strategy'). Articles met the criteria for inclusion if they were relevant to the clinical questions, were written in English, and the participants had either atrial fibrillation (AF) or atrial flutter (AFL). Articles about AF that developed from cardiac or other surgery were excluded. Only the most rigorous studies for each question were retrieved for assessment and extraction of data.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

+ Assigned when all or most of the criteria are met

~ Assigned when some of the criteria are met and where unmet criteria are not likely to affect the validity, magnitude, or applicability of the results markedly

x Assigned when few or none of the criteria are met

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Articles identified by the searches were retrieved, data was extracted, and the studies were critically appraised. The details of each relevant study, together with the level of evidence for validity, were included in evidence tables based on each clinical question, and these are available online at www.nzgg.org.nz (click on 'Guidelines/Publications' then 'Cardiology' then the Guideline title, then 'Evidence Tables').

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

A multidisciplinary group composed of professionals and a consumer representative was convened as the Guideline Development Team in early 2003. Team members were nominated by a variety of stakeholders including the Royal New Zealand College of General Practitioners (RNZCGP), the Cardiac Society of Australia and New Zealand, the Stroke Foundation of New Zealand, Pathology Associates, the Neurology Association, and the Mäori Cardiovascular Group.

Two face-to-face meetings were held in Auckland during 2003. The goal of the first meeting, held at the end of June, was to train members of the team in the processes of guideline development, to identify relevant clinical questions, and to make decisions about the scope of the guideline. Prior to the meeting, a large guideline published in 2001 was identified, entitled *ACC/AHA/ESC Guidelines for the Management of People with Atrial Fibrillation*, which had been developed jointly by the American College of Cardiology (ACC), the American Heart Association (AHA) and the European Society of Cardiology (ESC).

At this first meeting, the Guideline Development Team agreed to adapt this guideline for the New Zealand setting and permission was granted by the American College of Cardiology. The team agreed to accept in principle the major recommendations, where appropriate, and to update the 2001 ACC/AHA/ESC guideline by searching for more recent evidence and considering the impact of this on the 2001 recommendations. The NZGG grading system (see "Rating Scheme for the Strength of the Recommendations") was used rather than the grading system used in the ACC/AHA/ESC 2001 guideline. Consideration was also given to the relevance of the guideline to the local setting as part of the adaptation process. Other relevant guidelines for atrial fibrillation (AF) located by a preliminary search were used in the development of this guideline.

The second meeting of the Guideline Development Team, held at the end of November 2003, developed graded recommendations based on the compiled evidence tables, using the Considered Judgment process. Algorithms that linked to the recommendations were also developed.

The guideline text was written by the project team with contributions from members of the Guideline Development Team, based upon the agreed recommendations from the second meeting.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Levels of Recommendation

A - The recommendation is supported by GOOD evidence (where there is a number of studies that are valid, consistent, applicable, and clinically relevant)

B - The recommendation is supported by FAIR evidence (based on studies that are valid, but there are some concerns about the volume, consistency,

applicability, and clinical relevance of the evidence that may cause some uncertainty but are not likely to be overturned by other evidence)

C - The recommendation is supported by EXPERT OPINION only (from external opinion, published or unpublished, e.g., consensus guidelines).

I - No recommendation can be made. The evidence is insufficient (either lacking, of poor quality, or conflicting and the balance of benefits and harms cannot be determined).

GPP - Where no evidence is available, best practice recommendations are made based on the experience of the Guideline Development Team, or feedback from consultation within New Zealand.

COST ANALYSIS

The projected increase in the prevalence of atrial fibrillation (AF) will add greatly to health care costs in New Zealand. Although few specific data were available to document current management of AF in New Zealand, there is clear evidence of variation in the use of drug treatments and underutilisation of anticoagulation to prevent stroke. This gap between current and optimal management of AF will add to health care costs.

Other Western countries have documented an increase in the proportion of total health expenditure for AF in recent years. In 1995, the direct cost of health care for people with AF in the United Kingdom was 0.62% of the total National Health Service (NHS) expenditure. This included hospitalisations, drug prescriptions, and long-term nursing home care after hospital admission, with approximately 50% of this cost being for hospitalisation. By the year 2000, the direct cost of health care for people with AF had risen to 0.97% of total NHS expenditure, based on 1995 figures.

Improved access to echocardiography is urgently needed. Publicly-funded access to echocardiography services in a reasonable time frame is currently variable across New Zealand and in some regions non-existent. Consistent with the National Heart Foundation of New Zealand's consensus guidelines for the management of heart failure, timely access to echocardiography is important for optimal management and outcomes to occur.

The underutilisation of anticoagulant therapy to prevent stroke contributes significantly to health care costs. It has been estimated that the life-time cost of one stroke is approximately NZ$50,000. Although estimates of the use of anticoagulation in people with AF in New Zealand vary, the highest estimate suggests that approximately 32% of people with AF take warfarin therapy. The evidence suggests that the majority of people with AF would benefit from anticoagulant treatment. If the proportion of people with AF taking anticoagulant therapy increased from 32 to 50%, this could prevent approximately 200 strokes per year in New Zealand, with a cost saving of around NZ$10 million per year.

A strategy of anticoagulation and rate control is considered appropriate for the majority of people with AF. This guideline, as well as recent data, suggests that

there should be a reduced emphasis on rhythm control, except in younger symptomatic people (see Chapter 5 entitled "Management Principles" in the original guideline document). This change is likely to reduce hospital admissions as well as the adverse effects of antiarrhythmic therapy, which should result in further savings.

A full economic analysis has not been undertaken in this guideline, but the implementation of its recommendations has the potential to improve health outcomes for people and rationalise health expenditure. It is hoped that the implementation of these recommendations will result in a reduction in total expenditure for AF and its consequences.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

In early 2004, individual chapters were sent out to the whole group for comment and feedback, and the full document was sent out for peer review to relevant stakeholders in August/September 2004. The guideline was subsequently circulated for final sign-off and published in May 2005.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the Levels of Evidence and Grades of Recommendation **(A-C, I**, and **Good Practice Points [GPP]**) are given at the end of the "Major Recommendations" field. Where no evidence is available, best practice recommendations are made based on the experience of the Guideline Development Team.

Clinical Evaluation

C - All people presenting with atrial fibrillation/atrial flutter (AF/AFL) for the first time should have the following investigations:

- History and clinical examination
- Electrocardiograph (ECG)
- Transthoracic echocardiogram (TTE)
- Blood tests -- thyroid function (with thyroid stimulating hormone [TSH]), renal function (creatinine), International Normalized Ratio (INR, [pre-warfarin]).

C - Additional testing may also be necessary in selected cases.

- Chest x-ray if clinical findings suggest pulmonary abnormality
- Exercise tolerance test

- 24-hour Holter monitoring
- Electrophysiological testing
- Transoesophageal echocardiogram (TOE)

GPP - Improved access to TTE throughout New Zealand is recommended.

Prevention of Thromboembolism

A - All people with AF/AFL require thromboembolic risk assessment, irrespective of the current rhythm. The majority of people with AF/AFL require anticoagulation to reduce their risk of stroke.

A - Antithrombotic treatment (oral anticoagulation or aspirin) should be administered to all people with AF/AFL, except those with lone AF (people <60 years with no hypertension or heart disease), to reduce the risk of thromboembolic events.

- People with AF/AFL at **HIGH** or **VERY HIGH** risk of stroke should receive long-term anticoagulant treatment with adjusted-dose warfarin aiming for an INR between 2.0 and 3.0 (target 2.5), unless there are clear contraindications. **(A)**
- People with AF/AFL at **INTERMEDIATE** risk of stroke should discuss their individual risks, the potential benefits, and their preferences regarding anticoagulant or aspirin treatment, with their doctors. **(C)**
- People with AF/AFL at **LOW** risk of stroke or who have a contraindication to warfarin should receive aspirin. There is insufficient evidence to recommend a specific dose (some experts recommend 300 mg aspirin daily). **(B)**
- People with previous AF, or paroxysmal AF (PAF) who have converted to sinus rhythm, remain at increased thromboembolic risk. They should be assessed for thromboembolic risk and treated with warfarin or aspirin as described above. **(B)**

A - Anticoagulation should be started in every person with AF/AFL and ischaemic stroke or transient ischaemic attack (TIA) unless contraindicated, once intracranial haemorrhage has been excluded.

GPP - The risk of bleeding needs to be assessed in all people with AF/AFL being considered for anticoagulant treatment and periodically reassessed.

Rate Control

A - Rate control is the recommended strategy for the majority of people with AF/AFL.

In the non-acute situation:

- Beta-blockers (particularly atenolol, carvedilol, metoprolol, nadolol, and propranolol), verapamil, diltiazem, and digoxin are effective rate-control agents, although digoxin is not effective during exercise. **(A)**

- A combination of rate-control agents is sometimes required to achieve adequate rate control, but the combination of a beta-blocker with verapamil should be used with considerable caution. **(C)**

In acutely symptomatic people with rapid AF/AFL, consider use of the following intravenous (IV) rate-control agents, which have proven effective in haemodynamically stable people:

- Esmolol (very short-acting), metoprolol, propranolol, diltiazem or verapamil **(A)**
- Amiodarone, digoxin **(B)**

GPP - Note: Atenolol intravenous (IV) is not currently available in New Zealand. The choice of medication should be individualised.

B - Sotalol should **NOT** be used solely for rate control because it is associated with a higher incidence of life-threatening ventricular arrhythmias (particularly torsades de pointes).

Combined atrioventricular (AV) nodal ablation and pacing should be considered for people with:

- Permanent AF/AFL in whom ventricular rate remains poorly controlled despite optimal tolerated medical therapy and either persistent symptoms or left ventricular dysfunction (LVD) **(A)**
- AF/AFL and a rate-related cardiomyopathy that is unresponsive to drug therapy **(A)**
- Paroxysmal AF/AFL, if their symptoms are particularly troublesome **(C)**

GPP - The management of all people with AF/AFL should include assessment and control of ventricular rate both at rest and during exercise. Rate control should be periodically reassessed.

Rhythm Control

C - People who have significant haemodynamic compromise or rate-related angina, myocardial ischaemia, or acute pulmonary oedema, as a result of rapid AF/AFL, should be cardioverted immediately where possible.

C - Electrical cardioversion is the treatment of choice for people with pre-excited AF (Wolff-Parkinson-White [WPW] syndrome) with any haemodynamic compromise. If the person is stable and pre-excitation is intermittent or rates are slower, pharmacological cardioversion (see Section 8.1.4 of the original guideline document entitled "Pharmacological Cardioversion") can be considered, but AV nodal blockers (beta-blockers, non-dihydropyridine calcium channel blockers, and digoxin) must be avoided.

C - People with unacceptable arrhythmia-related symptoms should be considered for a rhythm-control approach.

B - If a rhythm control strategy is chosen for people who are not anticoagulated, they should be cardioverted within 48 hours of onset. If they cannot be cardioverted within 48 hours of onset, then they should have either:

- A therapeutic INR (2.0 to 3.0, target 2.5) for at least 3 weeks, OR
- A transoesophageal echocardiogram to exclude atrial thrombi before cardioversion

C - People with AF/AFL who should **NOT** receive electrical cardioversion include those with:

- Serum potassium outside the normal range
- A contraindication to, or intolerance of, conscious sedation or anaesthesia (or anticoagulation, if this is to be given)
- Digoxin toxicity
- Advanced conduction system disease
- Suboptimal anticoagulation
- Intermittent AF, with periods of sinus rhythm over the immediate precardioversion period
- A history of clear early relapse, despite optimal pharmacological maintenance therapy

B - Appropriate shock energy levels to achieve electrical cardioversion are:

- Monophasic waveform -- initially 200 J, then 300 to 360 J
- Biphasic waveform -- initially 100 or 120 J, then 150 to 200 J (for AFL, initially 10 to 50 J)

If shocks are initiated at these energy levels, most people are likely to require only one or two shocks to achieve sinus rhythm.

A - Consider the following agents for pharmacological cardioversion:

- Amiodarone (IV or oral)
- Flecainide (IV or oral)
- Propafenone (IV or oral)

Note: The pharmacological agents capable of very rapid cardioversion (dofetilide, ibutilide, and procainamide) are not currently available in New Zealand.

A - Flecainide or propafenone therapy usually results in more rapid cardioversion than amiodarone therapy, but should be avoided if there is clinical suspicion of structural heart disease (e.g., past myocardial infarction, coronary disease, LVD, severe left ventricular hypertrophy [LVH]). In these cases amiodarone is the preferred agent for pharmacological cardioversion.

A - Sotalol is not recommended for cardioversion because it is ineffective in this setting.

B - Consider amiodarone (e.g., 400 mg/day) pretreatment (3 to 4 weeks) for people with persistent AF who are awaiting an elective electrical cardioversion

procedure, as long as they have already received at least 3 weeks of therapeutic warfarin.

A - Amiodarone, disopyramide, flecainide, propafenone, and sotalol are recommended for the pharmacological maintenance of sinus rhythm.

C - The choice of antiarrhythmic agent for maintenance of sinus rhythm should be made on the basis of safety considerations, such as contraindications in certain subgroups, and the potential for cardiac and non-cardiac side effects.

Highly selected people may be considered for nonpharmacological maintenance of sinus rhythm. These treatments include:

- Pacemaker implantation **(B)**
- Atrial defibrillator implantation **(C)**
- Ablation, which includes catheter ablation in and around the pulmonary veins, catheter ablation of AFL (see Section 9.4 of the original guideline document, entitled "Atrial flutter") and accessory pathways, and surgical ablation **(C)**

GPP - People experiencing unexplained breathlessness while taking amiodarone should be promptly referred for evaluation, as amiodarone may cause pulmonary fibrosis.

Heart Failure

The management of AF/AFL in people with overt heart failure differs in important ways from that in other people (see Section 9.3 of the original guideline document titled "Recent or acute congestive heart failure").

Definitions:

Levels of Evidence

+ Assigned when all or most of the criteria are met

~ Assigned when some of the criteria are met and where unmet criteria are not likely to markedly affect the validity, magnitude, or applicability of the results

x Assigned when few or none of the criteria are met

Grades of Recommendations

A - The recommendation is supported by GOOD evidence (where there is a number of studies that are valid, consistent, applicable, and clinically relevant)

B - The recommendation is supported by FAIR evidence (based on studies that are valid, but there are some concerns about the volume, consistency, applicability, and clinical relevance of the evidence that may cause some uncertainty but are not likely to be overturned by other evidence)

C - The recommendation is supported by EXPERT OPINION only (from external opinion, published or unpublished, e.g., consensus guidelines).

I - No recommendation can be made. The evidence is insufficient (either lacking, of poor quality, or conflicting and the balance of benefits and harms cannot be determined).

GPP - Where no evidence is available, best practice recommendations are made based on the experience of the Guideline Development Team, or feedback from consultation within New Zealand.

CLINICAL ALGORITHM(S)

Clinical algorithms are provided in the original guideline document for:

- First Episode of Atrial Fibrillation
- Second or Subsequent Episode of Atrial Fibrillation
- Antiarrhythmic Therapy to Maintain Sinus Rhythm
- Direct Current Cardioversion for Persistent Atrial Fibrillation

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate treatment and management of atrial fibrillation and atrial flutter, resulting in an improvement in patient quality of life and decrease in the incidence of associated thromboembolic events

POTENTIAL HARMS

- Side effects of therapy, including complications of anticoagulant and antiarrhythmic drugs and electrical cardioversion. The main risk of anticoagulant therapy is bleeding, and the main risk of antiarrhythmic therapy is proarrhythmia.
- People experiencing unexplained breathlessness while taking amiodarone should be promptly referred for evaluation, as amiodarone may cause pulmonary fibrosis.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Absolute contraindications to warfarin therapy
    - Bleeding diathesis
    - Thrombocytopaenia
    - Poorly-controlled hypertension (blood pressure consistently ≥160/90 mm Hg)
    - Non-compliance with medication or International Normalized Ratio (INR) monitoring
    - Previous intracranial bleed or retinal haemorrhage
    - Recent gastrointestinal/genitourinary bleeding
    - First trimester and last month of pregnancy
- Relative contraindications to warfarin therapy
    - Significant alcohol use (≥60 mL/day or ≥5 standard drinks/day) or liver disease
    - Conventional non-steroidal anti-inflammatory drug (NSAID) use (without cytoprotection)
    - Participation in activities predisposing to trauma
    - Unexplained anaemia
    - Dementia
    - Multiple comorbidity
    - Unexplained recurrent syncope
- People with atrial fibrillation/atrial flutter (AF/AFL) who should not receive electrical cardioversion include those with
    - Serum potassium outside the normal range
    - A contraindication to, or intolerance of, conscious sedation or anaesthesia (or anticoagulation, if this is to be given)
    - Digoxin toxicity
    - Advanced conduction system disease
    - Suboptimal anticoagulation
    - Intermittent AF, with periods of sinus rhythm over the immediate precardioversion period
    - A history of clear early relapse, despite optimal pharmacological maintenance therapy
- Beta-blockers are contraindicated in people with asthma
- Beta-blockers, calcium channel blockers (diltiazem, verapamil), and digoxin are contraindicated in people with Wolff-Parkinson-White (WPW) syndrome and especially in those with pre-excited atrial fibrillation (AF).
- The combination of a beta-blocker and verapamil has resulted in severe bradycardia and requires careful monitoring. Intravenous administration of one, in the presence of the other, is contraindicated. If overt heart failure is present, verapamil and beta-blockers are relatively contraindicated.
- Some antiarrhythmic agents are absolutely or relatively contraindicated in certain subgroups of people (see Table 8.3 in the original guideline document).

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

While the guidelines represent a statement of best practice based on the latest available evidence (at the time of publishing), they are not intended to replace the health practitioner's judgment in individual cases.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The Guideline Development Team recommends that multifaceted approaches be considered to disseminate the guideline throughout New Zealand and encourage its implementation.

Distribution Strategies

Consultation

At the start of the guideline development process, a number of organisations with a specific interest in the management of atrial fibrillation (AF) and atrial flutter (AFL) nominated team members to be part of the Guideline Development Team. Feedback was sought from these organisations after they had reviewed a draft of the guideline. During this period of consultation, the draft was also distributed widely to other interested individuals and organisations, including the nominating agencies, and they were invited to comment on the draft.

Publication in Full

The full guideline is available free for download from the New Zealand Guidelines Group (NZGG) Web site (www.nzgg.org.nz). This Web site also provides supporting documents, including the search strategy and evidence tables for the guideline. A printed copy of the full guideline will be circulated to District Health Boards, Primary Health Organisations, accident and emergency departments of hospitals, cardiology departments, and pharmacy facilitators.

It is planned to submit this document for publication in an international peer-reviewed journal.

Guidelines Summary and Compact Disc

A summary booklet is being produced with the key messages, the main recommendations, and the algorithms to guide management of people with AF and AFL. In addition, a desktop summary, Handbook for Primary Care Practitioners (currently in development), will be sent to all primary care practitioners and included in key primary care magazines and publications. The desktop summary will be circulated to national regulatory bodies, medical colleges, dieticians, pharmacists, drug companies, and any other relevant bodies outlining the way AF and AFL should be treated alongside a spectrum of cardiovascular diseases.

A compact disc with complete copies of all of the cardiovascular guidelines will also be provided with the Handbook for Primary Care Practitioners for easy access.

Consumer Pamphlet

It is recommended that the development of a consumer pamphlet be funded to inform people with AF and AFL of the important issues. Information should be provided to enable consumers to access the full guideline. Consumers should be encouraged to actively discuss their treatment options with health care practitioners.

Events to Encourage Implementation

Guideline Launch

The guideline was launched at the Annual Scientific Meeting of the Cardiac Society in May 2005. This launch signalled the start of the implementation phase. The management of AF was a focus of the conference programme, with addresses by international experts in the area. Interactive workshop sessions were offered for the investigation of the guideline recommendations for specific clinical scenarios on AF. Further opportunities for presentations at other relevant local meetings and conferences will be pursued to help primary practitioners and specialists become familiar with the guideline.

Education Initiatives

The guideline and supplementary resources will be freely available for use in the education and training of pharmacy facilitators, primary care practitioners, nurses, and pharmacists. Other opportunities for web-based learning and the provision of Continuing Medical Education (CME) points for completed courses will be investigated, if funding can be secured.

Media

The guideline will be publicised in the media, including in the local press and in professional journals. This has already been initiated with an article in *New Zealand Doctor* (Oct 2004), and a feature in the *NZGG Evidence-based Health Care Bulletin* is planned for 2005.

Video

A video on warfarin, with accompanying document is under development by District Health Boards New Zealand. These resources will assist consumers starting anticoagulant treatment by suggesting improvements in practice to minimise the risks.

Audit and Evaluation

To assess the appropriateness of care for people with AF and AFL, District Health Boards (DHBs) should audit referral patterns, medication prescribing, stroke rates, adverse events, and hospitalisation rates. Audit is seen as a key quality-improvement activity to promote a change in practice and uptake of the guidelines. Explicit guidelines improve clinical practice when introduced in the context of rigorous evaluations.

Health program evaluation is a general process for monitoring and improving the quality of health care. The evaluation of guidelines is a two-part process. It first must be determined whether this guideline has reached its target audience (general practitioners and specialists who are involved in the care of people with AF and AFL, and their families) and, if so, whether it has been successfully implemented in practice. The net effect on specific health outcomes must then be assessed. Full assessment of the effectiveness of this guideline on care will require the development of performance indicators, and adequate information systems and surveillance techniques that allow for the collection of relevant patient data and analysis.

Refer to section 12.1 of the original guideline document for a proposed list of performance indicators for monitoring AF and AFL.

IMPLEMENTATION TOOLS

Audit Criteria/Indicators
Clinical Algorithm
Patient Resources
Quick Reference Guides/Physician Guides
Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

New Zealand Guidelines Group (NZGG). The management of people with atrial fibrillation and flutter. Wellington (NZ): New Zealand Guidelines Group (NZGG); 2005 May. 177 p. [422 references]

ADAPTATION

The guideline is an adaptation of the 2001 *ACC/AHA/ESC Guidelines for the Management of People with Atrial Fibrillation*, which was developed jointly by the

American College of Cardiology (ACC), the American Heart Association (AHA), and the European Society of Cardiology (ESC).

DATE RELEASED

2005 May

GUIDELINE DEVELOPER(S)

New Zealand Guidelines Group - Private Nonprofit Organization

SOURCE(S) OF FUNDING

New Zealand Guidelines Group

GUIDELINE COMMITTEE

Guideline Development Team

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

David Heaven has received financial support towards conference travel from Roche.

Hugh McAlister is a member of the New Zealand AstraZeneca specialist advisory board.

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Ministry of Health, New Zealand - National Government Agency [Non-U.S.]
National Heart Foundation of New Zealand - Disease Specific Society
Stroke Foundation of New Zealand, Inc. - Medical Specialty Society

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the New Zealand Guidelines Group Web site.

Print copies: Available from the New Zealand Guidelines Group Inc., Level 10, 40 Mercer Street, PO Box 10 665, The Terrace, Wellington, New Zealand; Tel: 64 4 471 4180; Fax: 64 4 471 4185; e-mail: info@nzgg.org.nz

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- New Zealand Guidelines Group (NZGG). General summary. The management of people with atrial fibrillation and flutter. Wellington (NZ): New Zealand Guidelines Group (NZGG); 2005 May. 20 p. Electronic copies: Available from in Portable Document Format (PDF) from the New Zealand Guidelines Group Web site.
- New Zealand Guidelines Group (NZGG). New Zealand cardiovascular guidelines handbook: developed for primary care practitioners. Wellington (NZ): New Zealand Guidelines Group (NZGG). 2005. Available in Portable Document Format (PDF) from the New Zealand Guidelines Group Web site.

Print copies: Available from the New Zealand Guidelines Group Inc., Level 10, 40 Mercer Street, PO Box 10 665, The Terrace, Wellington, New Zealand; Tel: 64 4 471 4180; Fax: 64 4 471 4185; e-mail: info@nzgg.org.nz

Additionally, Audit Criteria/Indicators can be found in Chapter 12 of the original guideline document.

PATIENT RESOURCES

The following is available:

- New Zealand Guidelines Group (NZGG). Atrial fibrillation. Information for you, and your family, whanau and friends. Wellington (NZ): New Zealand Guidelines Group (NZGG); 2006.

Electronic copies: Available in Portable Document Format (PDF) from the New Zealand Guidelines Group Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

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