
4 Cardiac emergency treatment and acute care

Goal

To reduce pre-hospital death rates and hospital and post-discharge morbidity and mortality through access to timely, equitable and effective emergency and acute cardiac interventions.

Rationale

Magnitude of the problem

It is estimated that 48,700 coronary events occur in Australia each year based on data on 40-90 year olds in 2001-02, leading to around 29,915 hospitalisations (AIHW 2004). Around 25 per cent of people who have a heart attack die within an hour of their first ever symptoms, with around half of all heart attack deaths occurring before the person reaches hospital (AIHW 2004).

A person who suffers a heart attack has double the chance of surviving if they get to hospital within an hour of feeling the symptoms. This benefit is reduced to 25 per cent when treatment is given within three hours. Patients typically take up to two hours to decide to go to hospital (Kelly et al 2002) and around 50 per cent of heart attack patients delay seeking treatment by more than six hours (Dracup et al 1997).

Time is also a critical factor in the likelihood of experiencing life-threatening arrhythmia and in the survival of people who experience a cardiac arrest, with the likelihood of successful resuscitation decreasing by 10 per cent every minute. While treatments for cardiac arrest have improved, delays in seeking treatment continue to contribute to mortality (Kelly et al 2002). When cardiac arrest victims are offered prompt defibrillation following the event, their chance of survival increases dramatically.

The number and type of cardiac treatments vary across different geographic locations. People living in rural and remote areas and Aboriginal and Torres Strait Islander peoples are less likely to receive prompt treatment during acute episodes.

Opportunities

It is estimated that around 4,000–5,000 lives could be saved each year in Australia in people aged 69 years and younger if heart attack victims recognised their symptoms and promptly sought treatment. At least that number again could be saved in the over 70 age group.

The greatest gains could be achieved by reducing the time between an acute event and access to emergency treatment, by raising awareness within the community of the importance of swift action. In addition, appropriate placement of public access defibrillators could help to provide prompt treatment for the 15 per cent of cardiac arrests that occur in public places.

Only 26 per cent of patients with heart attack are seen by a doctor within 10 minutes of arrival at hospital and only 40 per cent receive thrombolytic therapy within one hour (Palmer et al 1998). There is also potential for gain if more eligible patients received aspirin and reperfusion therapy, which have been shown to be highly effective. There is substantial international evidence supporting the administration of thrombolysis by health professionals as emergency treatment in the event of cardiac arrest outside a hospital environment. (Morrison et al 2000).

Distance from the nearest hospital may significantly delay the receipt of thrombolytic therapy, especially for Aboriginal and Torres Strait Islander peoples who may have limited access to transport and may live in outstation communities. Non-hospital thrombolysis is a recognised intervention, which has been demonstrated in the Northern Territory and may need to be more widely promoted.

There is wide variation between the States/Territories in rates of cardiac procedures. Waiting times to receive cardiac services carry significant social and economic costs and are often critical in determining whether the patient returns to work at all (Commonwealth Department of Health and Aged Care & AIHW 1999).

Australian data on short and long-term outcomes following cardiac surgery and coronary angioplasty are needed to clarify the roles of each intervention in various patient groups.

Strategies

- Raise community awareness of the early warning signs of a heart attack and the importance of receiving urgent medical attention.
- Increase the chance of survival after cardiac arrest through strategic and cost-effective placement of public access defibrillators and strategic training in cardiopulmonary resuscitation.
- Implement measures (eg telephone links, guidelines, training and professional support) to support health workers in rural and remote locations to provide improved emergency care, including measures to facilitate non-hospital thrombolysis.
- Utilise specialist outreach services to ensure that patients in rural and remote areas, including Aboriginal and Torres Strait Islander peoples, have better access to high quality emergency cardiac care.
- Develop systems for measuring and improving clinical performance in relation to acute cardiovascular procedures (eg coronary artery bypass graft and percutaneous coronary angioplasty).
- Increase the implementation of electronic and paper-based decision-support tools to assist clinical decision-making within the context of acute as well as chronic health care.

Priorities for national action

- *Increase community awareness of the symptoms of heart attack and other cardiac emergencies.*
- *Implement measures to support health workers who provide emergency services in rural and remote areas.*
- *Implement measures to help prevent death and disability due to sudden cardiac arrest.*
- *Develop systems for measuring and improving clinical performance in relation to acute cardiovascular procedures (eg coronary artery bypass graft and percutaneous coronary angioplasty).*