

## **Introduction**

An estimated 3.2 million Australians (17% of the population) reported having a cardiovascular condition in 2001 (ABS 2002). For those with established cardiovascular disease (heart, stroke and vascular disease), it is important to try to prevent the occurrence of further cardiovascular events such as acute myocardial infarction (heart attack) or stroke. This is known as secondary prevention. Rehabilitation programs can help heart and stroke patients reduce their risk of recurrence of such events and return to an active life.

Deaths from cardiovascular disease have fallen at an average age-adjusted rate of 3.8% per year over the period 1987–98, a faster fall than that for deaths overall. Secondary prevention and rehabilitation programs are both likely to have contributed to this decline. However, there are currently limitations on our ability to assess their contribution. Our estimates are made mainly from death and hospital statistics or from self-reports from surveys. There is no national system for directly measuring the incidence of coronary heart disease or stroke; nor do we have routine national information on some of the major cardiovascular risk factors such as high blood pressure and high blood cholesterol. There is also no similar information on cardiac or stroke rehabilitation programs and who uses them. These systems need to be developed to contribute to the national monitoring of cardiovascular disease.

This paper firstly highlights gaps and deficiencies in the monitoring of rehabilitation after coronary events or stroke and prevention of further events, and proposes ways to overcome them. It also suggests actions for advancing our capacity to establish a baseline and later assess the impact of policies and measures directed at cardiac and stroke rehabilitation and secondary prevention of cardiovascular events. It finally reviews current knowledge on cardiac and stroke rehabilitation and secondary prevention. This publication is intended to inform discussion in relation to monitoring among the National Heart, Stroke and Vascular Health Strategies Group, National Health Performance Committee, National Health Priority Action Council and other interested groups.

## **Coronary heart disease in a nutshell**

Coronary heart disease (CHD) is caused by poor oxygen supply to the heart muscle. This results from atherosclerosis (a thickening or hardening of the walls of a blood vessel) of the coronary arteries which supply the heart with blood. The manifestations of CHD can include episodic chest pain (angina), acute myocardial infarction (heart attack), heart failure and sudden cardiac death. In some cases, there may not be any manifestations of symptoms. It is the commonest form of heart disease and the single most important cause of death in Australia, representing 21% of all deaths. Modifiable risk factors for CHD include tobacco smoking, high blood pressure, high blood cholesterol, diabetes, a sedentary lifestyle and being overweight. Men are at considerably greater risk of the disease than women. Also at much greater risk are older people, those with a family history of the condition and Aboriginal and Torres Strait Islander people. The excess risk increases greatly with the number of risk factors present. Effective strategies to manage patients with CHD include reduction of risk factors, surgery, angioplasty and use of medications, including aspirin, beta blockers, calcium channel blockers, ACE-inhibitors and cholesterol-lowering agents (Edwards et al. 1998, AIHW 2001, DHAC & AIHW 1999).

## Stroke in a nutshell

Stroke is the most important manifestation of cerebrovascular disease. A stroke occurs when an artery supplying the brain suddenly becomes blocked (ischaemic stroke) or bleeds (haemorrhagic stroke). This causes loss of function of part of the brain and impairment in any or all of a range of functions including movement of body parts, vision, planning, communication and swallowing. The risk of stroke increases markedly with age. Aboriginal and Torres Strait Islander people are also at greater risk than other Australians. Major modifiable risk factors for stroke include high blood pressure, tobacco smoking, diabetes, atrial fibrillation and other cardiac disease, and narrowing of the carotid arteries. Each year, there are about 40,000 to 46,000 stroke events among Australians, and the number of people who have had a stroke at some time in their lives is estimated at 120,000–220,000. Each year about 12,000 of these patients suffer another stroke. The condition is the leading cause of long-term disability in adults, representing 25% of all chronic disability, and is Australia's second biggest single killer, accounting for around 10% of all deaths. To maximise functional outcome and minimise disability, many patients need rehabilitation after a stroke (AIHW 2001, Hankey 2000, Thrift et al. 2000).

## Definitions

*Disability* can be an impairment of body structure or function, a limitation in activities or a restriction in participation (see below).

*Rehabilitation* is a process aimed at enabling persons with disabilities to reach and maintain their optimal functional levels. With the introduction of the International Classification of Functioning, Disability and Health (see below), the definition of rehabilitation can be seen as a coordinated process that enhances 'activity' and 'participation' (Disler et al. 2002). Although there has traditionally been a focus on physical medicine, rehabilitation is now acknowledging the patient's social context.

The following definitions are based on the International Classification of Functioning, Disability and Health (ICF) (WHO 2001). Terms are defined in the context of health.

*Impairments* are problems in body function or structure such as significant deviation or loss.

*Activity* is the execution of a task or action by an individual.

*Participation* is the involvement in a life situation.

*Activity limitations* are difficulties an individual may have executing activities.

*Participation restrictions* are problems an individual may experience in involvement in life situations.

*Environmental factors* make up the physical, social and attitudinal environment in which people live and conduct their lives.