

## **Executive Summary**

Cardiovascular health is a National Health Priority Area. Cardiovascular disease is the largest cause of premature death and death overall in Australia, and its health and economic burden exceeds that of any other disease. Australia has one of the highest incidences of cardiovascular disease in the Asia-Pacific region. Cardiovascular disease accounts for approximately 40% of deaths among Australians. These issues are expected to become more acute over the next decades with the growing number of elderly Australians, among whom cardiovascular disease is most common. Cardiovascular disease will affect one in four Australians by 2051. Total financial costs of cardiovascular disease are more than \$14 billion per annum (1.7% of GDP). Direct health system costs of cardiovascular disease were estimated at \$7.6 billion in 2004 (11% of total health spending).

The proximal causes of the cardiovascular disease epidemics are well known. The major risk factors - inappropriate diet and physical inactivity (as expressed through unfavourable lipid concentrations, high body mass index, and raised blood pressure), together with tobacco use - explain at least 75% of new cases of cardiovascular disease. In the absence of these risk factors, cardiovascular disease is a rare cause of death. The optimum levels of cardiovascular disease risk factors are known; unfortunately, only about 5% of the adult population of developed countries is at low risk with optimum risk factor levels.

It is essential that pharmacists join other health professionals in national programs to tackle the leading cause of morbidity and mortality in Australia. It would seem that pharmacists, being the most readily accessible health professional in the community setting, could fulfil a useful role in the prevention, detection, and management of cardiovascular disease.

Considerable information on the status of cardiovascular disease in Australia (e.g. statistics, health care delivery programs, government and professional group policies) was collected. The Project Team then performed a systematic review of published studies describing community pharmacy-based cardiovascular disease programs. This

included an assessment of the quality of the published randomised controlled studies. The systematic review was developed within the following three major sub-areas.

- Health promotion to prevent development and progression of cardiovascular disease in the general population.
- Screening for cardiovascular risk factors and recommending referral for medical assessment and management when appropriate (high-risk individuals).
- Improving therapeutic outcomes in cardiovascular disease – e.g. promoting evidence-based guidelines in the pharmacotherapy of cardiovascular disease, monitoring and promoting compliance with prescribed drug therapy (patients with existing cardiovascular disease).

Information was also collected on community pharmacy cardiovascular disease programs that have operated or are currently operating in Australia and abroad, to identify opportunities for them to be adopted or expanded in Australia.

A national public survey was performed to assist in developing the Pharmacy Cardiovascular Health Care Model. The intention was to assess the public's perceptions of pharmacists' involvement and role in cardiovascular disease prevention and management. Peak national organisations were also canvassed for views on pharmacy's role in cardiovascular disease.

The results of the systematic review and public survey, along with the collective learnings from previous studies in Australia and overseas by the Project Team members, were subsequently used in the development of a Pharmacy Cardiovascular Health Care Model. This model builds on existing health service and health promotion priorities, and promotes partnership and collaboration across the health care system. As far as possible, the model has been developed to be consistent with the goals of the 'National Strategy for Heart, Stroke and Vascular Health in Australia', and the draft versions of the 'National Chronic Disease Strategy' and the 'National Service Improvement Framework for Heart, Stroke and Vascular Disease'. Feedback was provided by the Expert Advisory Group and key stakeholder organisations.

The Pharmacy Cardiovascular Health Care Model is based on the following priority areas.

- **Public/preventive health promotion** including:
  - health promotion to prevent development and progression of cardiovascular disease;
  - improving awareness of risk factors;
  - improving awareness of symptoms and early warning signs of acute episodes.
- **Continuum of care** including:
  - transfer of medication-related information between hospital and community;
  - follow-up of patients post-discharge to identify and remedy any drug-related problems.
- **High-risk patients** including:
  - referral for screening and risk-assessment (must be based on absolute risk assessment);
  - pharmacy-based risk factor screening and referral (may be a role).
- **Compliance with therapy** including:
  - promoting patient compliance with drugs, diet, exercise.
- **Medication management and reviews** including:
  - promoting evidence-based drug therapy of cardiovascular disease and preventing drug-related problems;
  - monitoring and educating patients e.g. through Home Medicines Review scheme.

The model supports the role of the pharmacy profession in promoting the dissemination and uptake of best preventive and treatment practices for heart, stroke and vascular diseases; enhances the role of consumers in maintaining and managing their own health; and improves the management of heart, stroke and vascular diseases across the continuum of care.

The model will require improved clinical performance by pharmacists, greater collaboration with other health professionals, and improved use of information and

communications technology. In related projects, the research team has demonstrated that electronic communication of medication histories between hospital and community improves the pharmaceutical care of elderly patients with cardiovascular disease, while in a randomised controlled trial it has been demonstrated that a computer-based educational alert and reminder, related to the use of low-dose aspirin in high-risk diabetic patients, within pharmacy dispensing software significantly increases intervention rates by pharmacists.

The Project Team has also made the following recommendations.

1. The Pharmacy Guild of Australia and the Pharmaceutical Society of Australia form closer links with the key national organisations related to cardiovascular disease, especially the National Heart Foundation of Australia and the National Stroke Foundation.
2. The Pharmacy Cardiovascular Health Care Model, as detailed in this Project, be further developed and evaluated, prior to being implemented nationally.
3. Comprehensive training packages for pharmacists and pharmacy assistants on cardiovascular disease prevention and management be developed and disseminated.
4. There be increased promotion of the Home Medicines Review scheme in patients with cardiovascular disease, particularly in collaboration with the National Heart Foundation of Australia and the National Prescribing Service, as a key component of the Pharmacy Cardiovascular Health Care Model.
5. The role of accredited pharmacists in improving the management of therapy with warfarin be further developed and evaluated, given the promising results to date. This includes the need for further research to be conducted on the impact of pharmacist-conducted INR monitoring on patient care and outcomes. Subsequently, the profession should develop training courses and an accreditation process for consultant pharmacists to perform monitoring of warfarin therapy, in collaboration with general practitioners.
6. There be further development of information technology-based strategies (e.g. prompts within dispensing software) to encourage pharmacists to intervene and

investigate possible instances of under-use of important cardiovascular agents, such as aspirin and  $\beta$ -blockers. The vast pool of electronic data at community pharmacists' fingertips must be utilised to greater effect.

7. Pharmacy-based cardiovascular disease screening programs be specifically targeted at those individuals likely to be at elevated risk of cardiovascular disease and incorporate absolute risk assessment and close liaison with general practitioners. Further, only pharmacists with appropriate training and demonstrated competence should perform cardiovascular disease risk factor assessments. More research needs to be conducted on the clinical and economic outcomes of community pharmacy cardiovascular disease screening programs before they are widely implemented.
8. There be an ongoing improvement in communication between community pharmacists and general practitioners and their respective organisations, and reinforcement of the fact that the Pharmacy Cardiovascular Health Care Model and related programs are intended to assist in improving the health of Australians and not as a threat to the medical profession.

The Pharmacy Cardiovascular Health Care Model has the potential to encourage the adoption and maintenance of healthy lifestyle behaviours, improve the detection and management of cardiovascular disease and make a significant impact on current health care practices and expenditure in Australia. The model will also improve the quality use of medicines by consumers and enhance the practice of community pharmacy in Australia.