



National Vascular Disease Prevention Alliance

Implementing an integrated, cost effective approach to prevention of heart disease, stroke, diabetes and kidney disease.

With an ageing population and more prevalent risk factors, the Australian Institute of Health and Welfare identifies chronic disease as 'Australia's greatest health challenge'.

Chronic disease (mainly coronary heart disease, stroke and heart failure, chronic kidney disease (CKD), cancer, lung disease and type 2 diabetes) is responsible for:

- 90% of all deaths, and
- 85% of the total burden of disease. ¹

General risk factors for vascular disease are widely distributed in the Australian population and rates are increasing; 92% of adults have at least one risk factor², while almost 40% of adults have three or more modifiable risk factors³. Recent data from the Australian Health Survey (2011-12) indicates that:

- more than 3 million Australians have high blood pressure
- 5.6 million Australian adults (32.8%) have unmanaged high blood cholesterol
- 1.3 million Australian adults have unmanaged high blood cholesterol and unmanaged high blood pressure
- 4 million are obese and 3 million are smokers⁴.

Approximately 1.7 million Australians (1 in 10) aged 18 years and over have indicators of CKD such as reduced kidney function and/or the presence of albumin in the urine, 5% have heart, vascular disease or have suffered a stroke and 4.6% are living with diabetes. These conditions are extremely costly to treat. They also account for a large number of avoidable hospital admissions. Cardiovascular disease (CVD) alone accounts for 11% of direct health care costs, the most expensive disease group. The Australian Institute of Health and Welfare (AIHW) forecasts that type 2 diabetes will - become the leading cause of disease burden in the next 10 years³, while recent analysis has show that in 2012 the costs attributable solely to chronic kidney disease were estimated at \$4.1 billion⁵.

There are strong relationships and shared risk factors across heart disease, stroke, type 2 diabetes and kidney disease. Together they account for approximately one quarter of the total disease burden in Australia and two thirds of all deaths. The burden of these conditions falls

¹ Australian Institute of Health and Welfare, *Australia's Health 2014*, Canberra 2014.

² Australian Institute of Health and Welfare, *Women and Heart Disease*, Canberra, 2010.

³ Australian Institute of Health and Welfare, *Australia's Health 2012*, Canberra, 2012, p. 482.

⁴ Australian Bureau of Statistics, *Australian Health Survey 2011-2012*, Canberra, 2012.

⁵ Wyld MLR, Lee CMY, Zhuo X, Shite S, Shaw JE, Morton RL, Colagiuri S, Chadban SJ. *Cost to government and society of chronic kidney disease stage 1-5: a national cohort study*. Intern Med J 2015;45 (7):741-7.

⁵ Wyld MLR, Lee CMY, Zhuo X, Shite S, Shaw JE, Morton RL, Colagiuri S, Chadban SJ. *Cost to government and society of chronic kidney disease stage 1-5: a national cohort study*. Intern Med J 2015;45 (7):741-7.

disproportionately on the poor and on particular groups, such as Aboriginal and Torres Strait Islander peoples.⁶

These diseases are collectively referred to as 'vascular disease' due to the damage they cause to blood vessels and the heart. Vascular and related diseases are considered the most costly to Australians, both in terms of health expenditure and in the burden of disease, measured in terms of disability and premature death.

To improve risk factor management the Council of Australian Governments (COAG) introduced a 'well person's health check' in general practice for people aged 45-49 years (MBS item 717) in November 2006 as a one of service for those who have one or more identifiable risk factor for chronic disease. Unfortunately uptake for this check in the eligible population has been disappointingly low⁷

In 2009, the Australian Institute of Health and Welfare published a framework for monitoring the prevention of vascular and related disease.⁸ It cited evidence that existing vascular and related disease assessment and management programs had limited uptake and were not well integrated or promoted as part of a national health system. The framework revealed that less than a quarter of those over 75 years and only 6% of those aged 45-49 were accessing regular health checks.⁹

The lack of adequate detection and management of vascular diseases risk factors is alarming and will have significant impact in the short to medium term on disease levels in the community and cost to the health system. A coordinated approach is required to increase awareness of individual vascular and related disease risk, to provide high quality assessment of individual risk and to provide appropriate interventions to support risk management.

Benefits of vascular health checks

The National Vascular Disease Prevention Alliance (NVDPA) strongly supports an integrated approach to detect and prevent vascular and related diseases in Australian general (medical) practice. Its key feature is to move away from disease or risk factor specific detection and treatment, to an integrated health check approach which recognises the interaction between these diseases and their risk factors and establishes systems to support uptake of best practice guidelines. This is done by using an integrated health check (diabetes assessment using Ausdrisk +/- BGT, kidney check with serum creatinine and urine albumin creatinine ratio, and an 'absolute' cardiovascular risk assessment) in general practice.

A program to assess patients risk of conditions like heart attack and stroke will not only improve health but it will lead to fewer hospital admissions and reduce prescribing for those not at high risk. These are described below:

⁶ Australian Institute of Health and Welfare, 2010; Australian Institute of Health and Welfare, Tong & Stevenson, 2007; Begg, 2007

⁷ Britt H, Miller G, Charles J, Henderson J, Bayram C, Valenti L, Harrison C, Pan Y, O'Halloran J, Zhang C, Chambers T, Fahridin S: A decade of Australian general practice activity 2001-02 to 2010-11. Sydney: Sydney University Press; 2011. ; Chan A, Amoroso C, Harris MF: New 45 – 49 year health checks, GP uptake of MBS item 717. Aust Fam Physician 2008, 37: 765– 768

⁸ Australian Institute of Health and Welfare (2009) data summarised in National Vascular Disease Prevention Alliance Position Paper, May 2011, *Risk awareness raising, assessment and management for the prevention of vascular and related diseases*

⁹ Australian Institute of Health and Welfare, *Prevention of cardiovascular disease, diabetes and chronic kidney disease: targeting risk factors*, 2009

Reducing costs from hospital admission and readmissions

Hospital readmissions, particularly for heart attack, stroke or diabetes related complications can also be substantially reduced. If CKD is detected early and managed appropriately, then the otherwise inevitable deterioration in kidney function can be reduced by as much as 50%.¹⁰ Progression of CKD to end stage kidney disease requires on-going dialysis or transplant, both exceptionally high cost treatments. The cumulative cost of treating all current and new cases of end-stage kidney disease from 2009 to 2020 is estimated to be between approximately \$11.3 billion and \$12.3 billion.¹¹

There is strong research evidence that repeat cardiovascular events can be halved by effective Secondary Prevention Care – including use of medicines and lifestyle modification. This is significant given that one in four vascular patients will be readmitted to hospital; up to 50% of these readmissions could be prevented through improved management in the primary care sector. Deloitte Access Economics found that barriers to cardiac rehabilitation programs include lack of follow-up by health care professionals, lack of referral and psychosocial factors.¹²

There is a growing recognition of gaps between what is known from research evidence and actual clinical practice including barriers to the use of evidence. By reducing these gaps we can look at improving health outcomes and reducing costs.

Reduce prescribing for those not at high risk

The use of an integrated health check will help ensure that only those who need vascular medications, such as statins for lowering high blood cholesterol, will be prescribed them. That's because the integrated health check will identify those at high absolute risk. For example, some individuals may have isolated risk factors such as high blood cholesterol, or high blood pressure, but when the entire risk factor profile is assessed, the individual may not be at high absolute risk, and medication may not be necessary.

The current primary care review provides an ideal opportunity to ensure future systems and policy support an integrated approach to risk assessment and management of the chronic diseases that are responsible for some of the highest burden on our health system.

While we are specifically addressing the integration between heart disease, stroke, kidney disease and diabetes, the principles which underpin this approach apply to other chronic diseases with shared risk factors and high levels of co-morbidity (eg. cancer and mental health). Reference to steps that will facilitate integration beyond the vascular diseases is therefore also made.

Recommendations and timeframes

The following recommendations are based on work that has been undertaken over the last five years to see a more efficient and cost effective approach to prevention of heart disease, stroke, diabetes and kidney disease. It draws on several key documents developed by the NVDPA and on approaches adopted by the National Prescribing Service and the Australian Primary Care Collaborative as well as learnings from implementation of this approach in other countries (Appendix A).

¹⁰ Johnson DW. Evidence-based guide to slowing the progression of early renal insufficiency. *Intern Med J* 2004 January;34(1-2):50-7.

¹¹ Cass A et al. *The Economic Impact of End Stage Kidney Disease in Australia: projections to 2020*. 2010.

¹² Deloitte Access Economics (2011) *ACS in Perspective: The importance of secondary prevention*.

Short term: Immediate action -2 years

- Support the uptake of an integrated health check through the Practice Incentives Program. (The Australian Government is currently considering the development of a quality-focussed PIP. The integrated health check and on-going management of patients with, and at high risk should be included in a future quality focussed PIP). As previously recommended by the NVDPA this would include systems that provides incentives for general practitioners to:
 - Check eligible patients for vascular and related conditions through an 'integrated health check' which includes an absolute cardiovascular risk assessment, type 2 diabetes check and kidney disease check;
 - Manage the overall risk profile of patients, stratify risk (high, moderate, low) and address their combined risk factors through advice about healthy eating, healthy physical activity and healthy weight, medical management and/or facilitating and coordinating access to evidence-based prevention programs;
 - Maintain a patient register, with recall and reminder system for patients eligible for assessment and those who require management of risk; and
 - Record and report proportion of eligible patients who are checked, who have their risk managed according to the relevant practice guidelines, who have a GP management plan, and who access evidence-based prevention programs.
- Provide funding for an update of the NVDPA CVD risk assessment and management guidelines and support their transition to new systems under development by the NHRMC.
- Develop performance standards, benchmarks and indicators based on the recommendations.
- Review PBS criteria for medications to ensure consistency with the integrated health check and the NHMRC approved CVD risk assessment and management guidelines
- Undertake work to modify the Framingham algorithm for the Australian population.

Medium term 2-3 years

- Implement revised MBS items that support uptake of the integrated health check and the outputs of the Practice Incentive Program.
- Leverage the Primary Health Networks, with the Networks charged with, and supported to promote uptake of the integrated health check through education, systems support, creating linkages with necessary prevention services in the Network, measurement, and reporting and evaluation via quality improvement audits.
- Integrate guidelines recommendations into current and developing systems (including automatic calculation of risk, ability to write back into medical software and ensuring links can be made with the range of software systems). Software should be fully integrated with clinical software including linkages between multi-disciplinary care providers, support for practice registers and routine re-assessment of risk.
- Build on current and developing systems for audit of clinical data to build capacity for easily developed reports on performance at practice and individual level and link to clinical decision support tools.
- Develop risk assessment/stratification tools that enable consideration of other key chronic diseases (eg. Cancers and mental health) to the integrated health check.
- Provide other relevant information to practices, such as CVD and related disease hospital admissions and feedback from pharmacies on concordance with prescriptions.
- Develop and deliver QI programs which offer practice visits to support IT and data collection, analyse data broadly, provide feedback and identify gaps that can drive quality improvement.

1. Costs and benefits

Various work has been undertaken to explore the costs and benefits associated with this approach in relation to CVD prevention as part of the development process for the CVD guidelines, including a report by Theo Vos (under embargo by DOH and can be released with Departmental permission) and a paper by Cobiac (2012) (Appendix B).

The ACE prevention report published in 2010, found a **large impact** on population health (i.e. >100,000 DALYs prevented per intervention) can be achieved by improving the efficiency of blood pressure- and cholesterol-lowering drugs using an absolute risk approach and choosing the most cost-effective generic drugs

There are more cost-effective interventions with a **moderate impact** on population health (between 10,000 and 100,000 DALYs prevented per intervention). The main missed opportunities at the national level among these are screening programs for pre-diabetes, chronic kidney disease. There is good evidence for the effectiveness of the drug and lifestyle treatments that are recommended for the high-risk individuals identified by such screening programs.

It is estimated that:

- Between 1,502,648 and 3,005,295 people (between 50 and 100% uptake rate of assessment and management) would be eligible for treatment. This does not include people who have already had a CVD event
- The greatest majority of these people would be clinically indicated high risk (between 698,738 and 1,397,476); that is – people who are high risk of CVD because of co-morbidities such as diabetes or kidney disease. This does not include people who have already had a CVD event
- The change from a relative risk approach to an integrated, absolute risk approach would see 1.2 million Australians benefiting from treatment they are currently not receiving and 1.2 million Australians no longer receiving treatments they do not benefit from
- The approach has the potential 'to save \$5.4 billion in health sector costs over the current practice without compromising population health' (Cobiac, 2012)