Heart Health:
The first step to getting Australia's health on track

ahpc

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Acknowledgements

About the Australian Health Policy Collaboration

The Australian Health Policy Collaboration was established at Victoria University in 2015. The Collaboration is an independent think tank that aims to attract much required attention to the critical need for substantial and urgent health policy reform focused on addressing chronic disease on a national scale.

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Process

The Australian Health Policy Collaboration's mandate is to translate the evidence of 'what works' to improve health outcomes in Australia and help reduce the impacts of socioeconomic disadvantage on health and chronic diseases in the population.

The Australian Health Policy Collaboration (AHPC) drew on the agenda set by the World Health Organization Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 to develop a set of chronic disease targets and indicators for Australia. Published in November 2015, the *Targets and indicators for reducing chronic disease prevention in Australia* led by a national collaboration of leading Australian clinicians, experts and chronic disease scientists set a target to reduce premature mortality from noncommunicable disease:

> *A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases.*

The AHPC produced the first national report card to show where preventative health policy efforts have been successful in tackling risk factors for chronic diseases in Australia in July 2016. *Australia's Health Tracker* builds on the work of the national collaboration that produced health targets to support, guide and track progress towards a substantial changes in the health of Australia by 2025. The report card includes data on Aboriginal and Torres Strait Islander and non-Indigenous people, and children as well as adults.

Following the report card, a policy roadmap outlining solutions to *Australia's Health Tracker* was produced. *Getting Australia's Health on Track* presents 10 priority policy actions that, together, will help get Australia on track to reach the 2025 targets and significantly reduce preventable illness and disability in the population.

The Australian experts, researchers and clinicians that produced *Australia's Health Tracker* and the *Getting Australia's Health on Track* have outlined the first national implementation strategy to prevent and early risk manage the ongoing rise of chronic disease and the adverse health impacts on health expenditure and the economy.

Heart Health: the first step to Getting Australia's Health on Track is one of a series developed by the AHPC and national collaboration as part of the 10 priority policies listed in *Getting Australia's Health on Track.*

An Absolute Cardiovascular Risk Assessment is the first effective and necessary step to reducing premature morbidity and mortality in Australia.

Contents

Foreword

In 1981, Geffrey Rose published *Sick Individuals and Sick Populations*, a paper that changed the foundations of public health policy and practice, and continues to remain highly relevant. Rose identified the importance of an individual and population approach for prevention; fundamentally different but both are necessary. For cardiovascular disease, both approaches are needed.

One Australian dies every 12 minutes from cardiovascular disease – 40% of these deaths are premature.

Ten years ago, cardiovascular disease accounted for 12% of the allocated health budget – $7.6 billion at the time. In the 2016-17 financial year, there were more than 1.5 million bed days for cardiology patients.

Cardiac patients occupy the equivalent of more than 4000 hospital beds annually. To give some perspective, that's more beds than at the Royal Brisbane, the Royal Prince Alfred, the Royal Perth Hospital, the Alfred in Melbourne and the new $2.3 billion Royal Adelaide Hospital combined.

The economics of poor health go beyond the direct costs to health services including loss of productivity, taxation revenue and workforce participation.

The Australian Health Policy Collaboration has gathered the opinion of experts, and examined the issues of addressing cardiovascular disease through population and individual approaches.

The experts, clinicians and health professionals all agree that an Absolute Cardiovascular Risk Assessment is the most effective strategy to tackle preventable premature mortality and morbidity.

We sincerely thank all those who have volunteered their time and knowledge to this important piece of work. The strength of AHPC is the unity that lies within the national collaboration and expert working groups.

It is time to get to the heart of the matter. Absolute Cardiovascular Risk Assessment is affordable, accepted and readily implementable.

List of Abbreviations

Absolute Cardiovascular Risk Assessment (ACVR)

Australian Health Policy Collaboration (AHPC)

Australian Primary Health Care Nurses Association (APNA)

Chronic kidney disease (CKD)

Cardiovascular disease (CVD)

Disability-adjusted life years (DALYs)

Diphtheria, Tetanus and Pertussis (DTP3)

General Practitioners (GPs)

Information Technology (IT)

Medical Audit Advisory Group [UK] (MAAG)

Medicare Benefits Schedule (MBS)

National Heart Foundation Australia (NHFA)

National Health and Medical Research Council (NHMRC)

National Vascular Disease Prevention Alliance (NVDPA)

Northern Territory (NT)

New Zealand (NZ)

Organisation for Economic Co-operation and Development (OECD)

Pharmaceutical Benefits Scheme (PBS)

PEN clinical audit tool (PEN CAT)

Primary Health Network (PHN)

Population Health Organisation [New Zealand] (PHO)

Potential years of life lost (PYLL)

Quality Improvement Collaboratives (QICs)

quality improvement support team [UK] (QIST)

Royal Australian College of General Practitioners (RACGP)

United Kingdom (UK)

World Health Organization (WHO)

Executive summary

This technical paper considers the evidence for the effectiveness of Absolute Cardiovascular Risk assessment as a key intervention within a comprehensive national strategy aimed at reducing premature, preventable chronic disease mortality and morbidity.

The AHPC undertook this work in collaboration with leading clinical and policy experts. This is the first technical paper in a series that will provide the evidence for policy action and implementation of 10 high-level policy recommendations to improve the health of Australians proposed in the AHPC publication Getting Australia's Health on Track. The priorities were determined by leading Australian population health and chronic disease experts working in collaboration with the AHPC.

Getting Australia's Health on Track

This paper examines the extensive evidence for the effectiveness of investing in primary care to identify, assess and manage those in the population who are at most risk of cardiovascular disease (CVD) and consequent premature death. The paper identifies contemporary evidence-based strategies for national implementation of:

Targeted screening and treatment for absolute risk assessment of cardiovascular disease for adults aged 45–74 years and from 35 years for Aboriginal and Torres Strait Islanders in line with guidelines.

Absolute Cardiovascular Risk provides an estimate of an individual's risk of CVD onset over the next five years. Absolute Cardiovascular Risk Assessment involves the proactive identification and management of people with modifiable vascular risk factors. Absolute Cardiovascular Risk Assessment is assessed using an online tool filled in by a doctor with their patient that calculates overall risk of developing CVD. Whilst Absolute Cardiovascular Risk Assessment is not the whole answer to tackling CVD in the population, there

is compelling evidence of its benefits for individuals and healthcare demand management. Some startling facts about CVD (and dementia) are provided below.

- One Australian dies every 12 minutes from CVD, 40% of them prematurely.
- The leading cause of premature death in 2010–12 was coronary heart disease, accounting for 10% of all deaths in people aged under 75.
- Coronary heart disease is the leading cause of death in Australia.
- The next most common cause of death is dementia, which shares many of the same risk factors as CVD.
- Coronary heart disease is also the number one cause of disability in Australia, accounting for 7.8% of all disability-adjusted life years (DALYs). When combined with cerebrovascular disease, which accounts for a further 3.1% of DALYs, disease accounts for nearly a quarter of deaths and one tenth of disability in Australia.
- Adults living in areas with the lowest socioeconomic (SES) status in Australia are more than twice as likely to have coronary heart disease as adults living in the highest SES areas.
- Culturally and linguistically diverse people, those living in rural and remote communities, and Aboriginal and Torres Strait Islanders have significantly increased risk of both CVD and dementia.

There are severe economic impacts to the burden of CVD from:

- **Potential years of life lost (PYLL)**. There were an estimated 848,361 PYLL within the Australian population in 2012. This is equivalent to the social and economic loss of the lifetime contributions and productivity of around 10,000 people living to the age of 85.
- **Costs of illness**. Australia spends more on cardiovascular diseases than on any other disease group. The costs of CVD amount to over 12% of all health care expenditure.

Prevention of CVD is cost-effective. One study estimated that population-level interventions that reduced cardiovascular events by just 1% would result in significant savings to the health service compared with no additional intervention. Other studies point to significant cost-efficiencies and benefits for health (with >100,000 DALYs potentially prevented) through national implementation of absolute risk assessments, in comparison to only treating high levels of an individual risk factor (eg. cholesterol or blood pressure) with generic drug prescribing. Achieving high levels of Absolute Cardiovascular Risk Assessment and management of those at high risk has the potential to reduce the incidence and prevalence of stroke and dementia, which are projected to increase dramatically.

There is strong evidence for the effectiveness and efficiency of Absolute Cardiovascular Risk Assessment. The National Vascular Disease Prevention Alliance (NVDPA) developed Absolute Cardiovascular Risk Assessment guidelines that the Royal Australian College of General Practitioners (RACGP) has endorsed. Despite this, use of Absolute Cardiovascular Risk Assessment in Australia is suboptimal; it has not been incorporated well in routine general practice apart from in the Northern Territory (NT), where unique contextual factors exist. Australia's performance on CVD risk reduction compares poorly with that of other countries, including New Zealand (NZ), where Absolute Cardiovascular Risk Assessment has been rolled out nationally in the last five years. Between 80% and 90% of all eligible New Zealanders have had an Absolute Cardiovascular Risk Assessment in the last five years.

The lessons from the successful implementation of Absolute Cardiovascular Risk Assessment in NZ suggest that the following components of national infrastructure are necessary.

1.   One national integrated CVD risk management guideline.

2.   One CVD risk prediction equation.

3.   Integration of risk equations with patient electronic records and auditing of the results.

4.   A government-led national strategy to increase Absolute Cardiovascular Risk Assessment, which will include setting key performance indicators and targets to monitor progress, with engagement strategies for at-risk individuals and population groups.

Northern Territory Government clinics achieved 72% Absolute Cardiovascular Risk Assessment coverage for eligible Aboriginal adults aged over 20 between 2015 and 2017. However, there are important differences between NT primary care and primary care elsewhere in Australia, including 'virtually registered' populations and salaried general practices (case study 2).

Australia has some of the necessary infrastructure in place for mainstreaming Absolute Cardiovascular Risk Assessment, including robust, universally endorsed guidelines. However, the remaining components, and particularly the comprehensive engagement of primary care, are fragmented and incomplete. There is a need for an explicit, national policy commitment and investment to build on strengths in Australia's health services and adapt existing mechanisms and structures to mainstream a strategic effort to reduce cardiovascular risk in the population.

To achieve population-wide implementation of Absolute Cardiovascular Risk Assessment, the following actions are proposed:

1.   Increased primary care capacity
- National targets should be set for population-wide Absolute Cardiovascular Risk Assessment coverage rates, aiming for >90% coverage within five years.
- National funding should be established and provided to each Primary Health Network (PHN) to build capability in general practices, based on the national approach through Population Health Organisations (PHOs) in NZ and the strategy in the NT.
- PHNs could be given responsibility for:
o   PHNs should be given responsibility for engaging practices in a population health approach that leads to identification of at-risk individuals within their community. People with chronic mental illness should be included as a specific subgroup, reflecting the higher rates of heart disease among some people with chronic and enduring mental illness. Engagement could be achieved through registration or enrolment of individuals at risk at the practice or PHN level; and
o   reporting against the Absolute Cardiovascular Risk Assessment target quarterly. This report would be included within the national tier for the PHN Performance Framework.

2.   Improved primary care decision support and data collection to achieve and monitor coverage
- Decision-making and data collection is central to effective population-wide implementation of Absolute Cardiovascular Risk Assessment. PHNs should be in a position to collect data in their catchment area. National standards should be set by the Department of Health in collaboration with the RACGP.

3. **Support for general practice**

- Implement a specific MBS item for Absolute Cardiovascular Risk Assessment.
- High Absolute Cardiovascular Risk Assessment (>=15% over five years) should be considered a chronic disease for the purpose of accessing the specific Medicare item number. A specific Medicare item number for Absolute Cardiovascular Risk Assessment should be developed and should include a similar descriptor to the current type 2 diabetes item.

4. **Extension of care planning to individuals at high-risk of CVD**

- Care-planning provisions under Medicare should be extended to individuals who are assessed as being at high risk of CVD.
- Care plan descriptors should require the tracking of risk factors, and actions to reduce risk.

Background

The AHPC at Victorian University, Melbourne, is a public policy think tank focused on health and related public policy. AHPC's mandate is to translate the evidence of 'what works' to improve health outcomes in Australia and inform and influence policy development and implementation to help reduce the impacts of chronic diseases and socioeconomic disadvantage on the health of the population.

The AHPC national health policy strategy aims to propose, promote and inform a whole-of-population approach in policies, funding, institutional arrangements and service models to better prevent and manage chronic disease in Australia. The strategy is based on the evidence that the burden of chronic disease in Australia threatens to overwhelm the national health budget and the capacity of health services and the workforce. Much of that burden is preventable with effective and evidence-based changes to current policies, funding and service models that determine the capacity of Australia's health services to respond to chronic disease.

Chronic diseases such as CVD, cancer, mental illness, respiratory disease, diabetes, dementia and musculoskeletal disease have major long-term impacts on individuals and their communities. They impose the greatest burden of disease in developed countries such as Australia and have become a grave concern in developing countries.

Chronic diseases and conditions affect a substantial and growing proportion of the Australian population. Seven major and largely preventable lifestyle risk factors are recognised as contributing to about one third of the chronic disease burden in the Australian population – tobacco smoking, risky alcohol use, physical inactivity, poor diet and nutrition, excess weight, high blood pressure and high blood cholesterol.

Despite the established evidence of the impact of chronic disease on Australia's health system and costs, Australia's health policy priorities and related funding and service models continue to focus on treating illness, with lower than OECD average investment in the prevention and treatment of preventable chronic disease. This investment is inadequate given the impact that preventable chronic disease is having, and is expected to have in the future, on our economy and our population.

A range of national and state health policies and funding programs focused on chronic disease prevention and management have been put in place over several decades, and much is known about chronic diseases and their risk factors, incidence and treatment. Nevertheless, Australia continues with a siloed approach to specific chronic diseases, and lacks cohesive and effective health funding and service models relevant to prevention and effective management of chronic disease. One of the consequences is known to be expenditure on ineffective and poorly targeted treatments while high-risk factors for preventable chronic diseases in the population lack a strong focus (1).

AHPC has established a national collaboration of more than 50 national and health expert organisations and over 90 public health leaders. The national collaboration has developed and published *Australia's Health Tracker*, a comprehensive assessment of the health of Australians in relation to chronic diseases and their risk factors, measured against agreed national targets for health improvement (2). In November 2016, the publication *Getting Australia's Health on Track* outlined a suite of 10 priority policies for governments and policy leaders to improve the health of Australians through progress towards the targets identified by the national collaboration in *Australia's Health Tracker* (3). These priority policies, which reflect the best available evidence of effectiveness and which were judged to be feasible to implement and affordable, were developed by expert working groups of Australia's leading chronic disease scientists, clinicians and policy influencers.

The Importance of Risk Reduction Approaches

One of the priority policy actions proposed by the expert collaborators responds to the extensive evidence of the effectiveness of primary care-driven approaches to identifying and managing individuals at most risk of CVD. The experts called for:

Targeted screening and treatment for absolute risk assessment of cardiovascular disease for adults aged 45–74 years and from 35 years[1] for Aboriginal and Torres Strait Islanders in line with guidelines.

Absolute Cardiovascular Risk assessment is not the whole answer to tackling CVD in the population and the national collaboration have set out a comprehensive roadmap for change, addressing population-level chronic disease reduction and policy in several accompanying publications. There is, however, particularly strong evidence of the benefits of Absolute Cardiovascular Risk Assessment for individuals and healthcare demand management (4). A national approach to embedding Absolute Cardiovascular Risk Assessment in routine practice in primary care would mean that these individual-level benefits would be achieved across the whole population. This would be a major step in reducing the overall profile of risk to heart health and improving population health status, creating significant positive social and economic benefits.

This paper discusses the evidence for Absolute Cardiovascular Risk Assessment and assesses the extent to which policy and practice in Australia are conducive to mainstreaming Absolute Cardiovascular Risk Assessment in primary care. It concludes with recommended implementation strategies aimed at embedding a systematic national approach to Absolute Cardiovascular Risk Assessment.

Reducing Chronic Diseases by 2025

Australia has supported international efforts to achieve a target of a 25% relative reduction in risk of premature mortality from CVD, cancer, diabetes and chronic respiratory diseases by 2025 set by the World Health Organization's Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020 (5). The recently published Australian National Strategic Framework for Chronic Conditions reinforces that commitment. It states that *"as a member state of the World Health Organization (WHO), Australia has an international commitment to address non-communicable disease in line with the Global Action Plan"* (6).

Based on current trends, Australia is likely to fail to achieve the WHO 2025 target unless there is substantial improvement in CVD prevention. Moreover, without a stronger focus on identifying and tackling the avoidable risk factors at individual and population levels, it is unlikely that Australia will even make noteworthy progress towards the 2025 health targets for CVD, or for other chronic diseases including cancers, diabetes and chronic kidney disease (CKD), stroke, chronic respiratory diseases and dementia (2).

The interconnectedness of CVD, diabetes and CKD is clear and reinforces the necessity to take a holistic approach to chronic disease management (7). There is consistent evidence that CVD, diabetes and CKD are preventable conditions and share numerous protective risk factors – maintaining a healthy weight, not smoking and engaging in regular physical activity. Targeting multiple markers of CVD will significantly contribute to the best chance for improving population health outcomes. The guidelines developed by the NVDPA recognise the compelling case for addressing the multiple factors contributing to CVD.

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[1] The current guidelines recommend checks should occur from 35 years of age; compelling epidemiological evidence suggests they should begin at the age of 20.

The Burden of Cardiovascular Disease

The Fundamental Facts

Cardiovascular disease is a collective term for diseases of the heart and blood vessels. The term commonly includes diseases such as coronary heart disease, heart failure, peripheral vascular disease and stroke. Many of these conditions can be life-threatening.

One Australian dies every 12 minutes from CVD, 40% of them prematurely. The leading cause of premature death in 2010–12 was coronary heart disease, accounting for 10% of all deaths in people aged under 75 (8). In 2015, CVD was responsible for 29% of all deaths in Australia (9).

Nearly eight per cent of premature deaths are due to cerebrovascular disease (i.e. stroke); the next most common cause of death is dementia at 6.7%. Dementia has many of the same risk factors as CVD. The AHPC will soon release a paper addressing the links between CVD and dementia and the need for an integrated prevention strategy (10).

Coronary heart disease is the number one cause of disability in Australia, accounting for 7.8% of all DALYs. When combined with cerebrovascular disease, which accounts for a further 3.1% of DALYs, coronary heart disease accounts for nearly a quarter of deaths and one tenth of disability in Australia (11).

Adults living in the lowest socioeconomic areas in Australia are more than twice as likely to have coronary heart disease as adults living in the highest socioeconomic area (12, 13) Migrants, people living in rural and remote communities, and Aboriginal and Torres Strait Islanders have significantly increased risk of both CVD and dementia (14, 15).

This burden matters in many important ways. Premature death – that is, dying before the age of 75 – creates profound social, emotional and economic impacts. In economic terms, the impacts arise in two ways.

- **PYLL lost.** Using the age of 75 as the cut-off, there were 848,361 PYLL in Australia in 2012 (16). This is equivalent to the social and economic loss of the lifetime contributions and productivity of around 10,000 people living to the age of 85 (17).
- **Costs of illness.** Australia spends more on CVD than on any other disease group, according to a report released by the Australian Institute of Health and Welfare (17). The costs of CVD amount to over 12% of all health care expenditure in Australia (17).

CVD is Preventable

Heart attacks, strokes, some dementias and other CVD events are preventable. There is good evidence that the overall burden of disability and premature death can be reduced through a dual approach to tackling cardiovascular risks, involving:

- **prevention** – eg. tobacco control, health promotion on diet and physical activity and targeted screening for absolute risk of CVD and management according to absolute risk in the adult population; and
- **treatment and management for individuals** who have already had a relevant health-event (for instance heart attack or stroke).

The modifiable risk factors for CVD include high blood pressure, high cholesterol, smoking and physical inactivity. Considerable and rising numbers of Australian adults have high blood pressure (23%), high cholesterol (32.8%) and are overweight or obese (63.4%). Whilst it is important to acknowledge that the incidence and prevalence of CVD is decreasing in Australia and elsewhere in the developed world as a direct result of the actions already being taken to address the known risk factors (18), much more could be achieved (19). The national implementation of Absolute Cardiovascular Risk Assessment, which is a

tried and tested intervention for identifying risks, using existing health care resources more efficiently, has the potential to accelerate the decline in the overall incidence of CVD.

Taking Action to Prevent CVD

Absolute Cardiovascular Risk Assessment

Mainstreaming Absolute Cardiovascular Risk Assessment – a targeted prevention approach – will reduce the burden of suffering, disability and premature mortality from CVD (20). Absolute Cardiovascular Risk Assessment screening involves the proactive identification and management of people with modifiable vascular risk factors (21). There is strong evidence that this group are also at risk of dementia in later life (8). Absolute Cardiovascular Risk Assessment has the potential to benefit tens of thousands of Australians each year and to reduce the costs of healthcare (4, 20, 22, 23).

Improving Care and Treatment

Many people at high risk of both CVD and dementia are not receiving optimal care. An estimated 1.4 million Australians (20% of 45–74-year-olds) at high risk of a CVD event within the next five years are not receiving recommended care (20).

There is widespread under-treatment of CVD risk. High-risk patients should be receiving a combination of lipid-lowering and antihypertensive therapy unless contraindicated, but only a quarter of high-risk patients without CVD aged 45–74 years received this combination, and fewer than three in 10 received one or the other (20).

An Australian study found that GPs are not adhering to the NVDPA guidelines. The study shows GPs are focussing on individual risk factors for CVD rather than taking an absolute risk approach as suggested by the Australian guidelines leading to overtreatment of low-risk patients and under treatment of high-risk patients (24).

Only 35% of patients with high cardiovascular risk have been prescribed antihypertensive or lipid-lowering drugs in line with guideline recommendations (20).

Under-treating those who will benefit most and poorly targeted treatments for those likely to experience little benefit is neither effective clinical practice nor good use of healthcare resources. Comprehensive support for Absolute Cardiovascular Risk Assessment will enable accurate measurement of individual risks and support clinical decision-making regarding treatment. This will ensure that those at highest risk are treated appropriately and effectively with drugs or other medical interventions, and will reduce over-treatment of those at lower risk, which will be beneficial for individuals and make effective use of healthcare resources and budgets.

For all individuals with CVD risks, medical approaches alone are not the whole answer. Lifestyle and behavioural changes, and in particular, quitting smoking, reducing harmful drinking, increasing physical activity and reducing body weight, are also essential for overall, risk management and health improvement. Absolute Cardiovascular Risk Assessment will raise awareness of the importance of lifestyle behaviours in influencing the health of individuals, and will provide a platform for enhanced national education about health-related behaviours and choices.

Cost Effectiveness

Prevention of CVD is cost-effective. One United Kingdom (UK) study estimated that population-level risk-reduction interventions that reduced cardiovascular events by just 1% would result in annual savings to the health service worth at least £30 million (AUD 48 million) a year compared with no additional intervention (25).

Other studies support these findings, pointing to significant cost-efficiencies and benefits for health. Over 100,000 DALYs could be prevented in Australia if Absolute Cardiovascular Risk Assessment assessments, rather than only treating high levels of an individual risk factor (eg. cholesterol or blood pressure), were performed nationally and if the most cost-effective generic drugs were prescribed (4, 26).

Beneficial Impact on Brain Health

It is reasonable to conclude that achieving a high level of Absolute Cardiovascular Risk Assessment and management of those at high risk will also reduce the incidence and prevalence of stroke and some dementias, which are currently projected to increase dramatically (10, 27-29). There are 343,000 people with dementia in Australia and it is the second leading cause of death (30). Based on predictions of population growth and ageing, the numbers of people with dementia will rise to 400,000 by 2020 (31). Aboriginal and Torres Strait Islanders have 3–5 times the risk of developing dementia of non-indigenous people (30). The direct and indirect costs of all dementias are estimated to increase to $18.7 billion in today's dollars by 2025 (31). This will place health care systems under significant additional strain, affecting the health and well-being of not only those with the disease but those caring for them.

Recognised risk factors for dementia would be addressed in general practice through appropriate management of elevated CVD risk, including hypertension, raised cholesterol levels, obesity, diabetes mellitus, smoking, physical inactivity, and alcohol intake (28, 32). Antihypertensive and cholesterol-lowering drugs can protect against dementia in individual patients (33).

Five recent studies from four countries, United States, The Netherlands, Sweden and the UK have shown a decline in the incidence and prevalence of dementia, which has been attributed to favourable changes in risk factors (34). In Finland, a dementia prevention trial including monitoring and management of cardiovascular risk factors found greater improvement in cognitive performance in the intervention than the control group (29, 33).

Improving Heath Equity

Given the measured social gradient in the incidence of CVD, effective prevention will have significant benefits for health equity. Adequately funded primary care has been shown to improve coronary heart disease outcomes in low socioeconomic and at-risk minority populations (35, 36). Targeted strategies are appropriate for specific population groups where risks are higher and outcomes poorer, including Aboriginal and Torres Strait Islanders.

There is a well-defined link between severe mental illness and CVD. People with clinical depression, who are socially isolated or who have a lack of quality social support are at higher risk of CVD. The risk of CVD is 2–3 times higher for people with minor depression and 3–5 times higher for those with major depression. The existence of risk factors such as smoking and high blood pressure worsens the prognosis (21).

Strength of Evidence for Absolute Cardiovascular Risk Assessment

There can be no doubt about the strength of the evidence for the effectiveness and efficiency of Absolute Cardiovascular Risk Assessment. This evidence has been recognised by the NHMRC, which has approved guidelines for clinical practice, aimed at promoting widespread and systematic implementation of Absolute Cardiovascular Risk Assessment. These guidelines are the work of the four member organisations of the NVDPA (21). The RACGP adopted the guidelines in 2012 with the aim of standardising Absolute Cardiovascular Risk Assessment practice and encouraging routine adoption of Absolute Cardiovascular Risk Assessment in general practice (37). Despite this strong evidence and support from all the major expert bodies, use of Absolute Cardiovascular Risk Assessment in Australia is sub-optimal and has not been incorporated well in routine general practice (38). There has been little research on Absolute Cardiovascular Risk Assessment implementation and no effective implementation strategy (39).

Supporting Primary Care with the Right Tools

It is clear that the development of widely-endorsed guidelines is not, in itself, sufficient to ensure that change takes place at the required scale. Primary care must also be supported with the right tools to implement this new approach. There is good international and Australian evidence that, if given the right tools for the job, primary health care services can implement Absolute Cardiovascular Risk Assessment assessments and, in so doing, make a major contribution to CVD prevention. The implementation of an Absolute Cardiovascular Risk Assessment program in NZ offers a valuable example of what can be achieved with the correct mix of incentives and resources. Between 80% and 90% of all eligible New Zealanders have had an assessment for Absolute Cardiovascular Risk Assessment in the last five years (40). The evidence from NZ can be put into practice in Australia.

There are also important lessons to be learned from the success of the Absolute Cardiovascular Risk Assessment program in the NT about what is required to equip primary care to replicate this success across Australia. The key messages are distilled in the case studies below.

Case Study 1: New Zealand

The success of absolute cardiovascular risk assessment in New Zealand

Four components are identified as central to the effective implementation of Absolute Cardiovascular Risk Assessment across NZ (41).

Key Success Factors in Implementing Absolute Cardiovascular Risk in NZ

1. **One national integrated CVD risk management guideline.** The integrated guideline consolidated existing CVD risk factor guidelines (eg. for high blood pressure, dyslipidaemia). Absolute Cardiovascular Risk is based on the knowledge that small increases in a few risk factors pose greater risk of CVD than a large rise in a single risk factor because the risk factors have a multiplier effect.
2. **The unitary national guideline supports one CVD risk prediction equation.** Since 2003, NZ has supported one equation – a modified Framingham equation[2]. This equation allows tables to be constructed that can be used to predict an individual's CVD risk, taking into account the person's age, gender, ethnicity, smoking habit, presence of diabetes, blood pressure and cholesterol levels. The risk is expressed as the chance of a CVD event within 10 years (eg. 10%). Currently, high risk is defined in Australia as $\geq$15% in 5 years (See Appendix I).
3. **Integration of risk equations with patient electronic records** and auditing of the results. That is how the rate of coverage in NZ is known to be 80–90%.
4. **A government-led policy objective** to increase Absolute Cardiovascular Risk Assessment. This has been achieved with a relatively small financial incentive designed to support local Primary Health Organisations (PHOs) to provide the required infrastructure for risk assessment and audit. The previous NZ Minister of Health set a 90% coverage goal as one of six primary care targets.

Electronic decision-making support for general practitioners (GPs) has been an important factor in increasing assessment rates in NZ (42, 43). This process was facilitated by the development of standardised and compatible software and the commitment of private software developers to developing systems for use in primary care. The unitary national approach, with its economies of scale, enables

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[2] The Framingham Risk Equation is a predictive equation born out of the Framingham Heart Study, which started in 1948 and has been operational for more than 60 years.

industry to achieve a return on the significant investment in systems development and ensures better buy-in.

Almost all New Zealanders (over 98%) are enrolled in a PHO, and each PHO is required to report on their enrolled population to the Ministry of Health every three months. This includes reports on the Absolute Cardiovascular Risk Assessment rate in their catchments by age, gender and ethnicity. By 2007–08, almost every GP in NZ had an electronic CVD risk calculator integrated into their clinical records. From about this time, the Ministry of Health introduced the PHO Performance Programme, which provided small incentive payments to PHOs for reaching agreed national targets, including one for CVD risk assessment. The payment was small and related to reporting to maintain and report on their progress and so became, in effect, a mechanism for a regular audit. The Ministry of Health made CVD risk assessment one of its high-priority targets in about 2010. In 2012 the assessment rate was 49%; the 80% target was reached in 2014–15, and the rate climbed to 91% in 2015–2016. Another important element in the NZ approach is that the comparative performance of all the PHOs on several targets, including Absolute Cardiovascular Risk Assessment, is publicly reported annually.

The widespread adoption of Absolute Cardiovascular Risk Assessment has been driven with strong and sustained support from champions throughout the health sector. The National Heart Foundation of NZ has been a major player, along with the NZ Guideline Group. There has been strong and consistent support from health ministers and there have always been supporters in the Ministry of Health.

> *The ACVR has an easy-to-use system that anyone who is trained can do, not just GPs. PHOs offer tremendous support to practices: calling; reporting often and the big one is sharing anonymised comparisons of all clinics – that creates competition and incentive. The payments are very small, differ depending on PHO and likely not to be an incentive. Example: practice with 5,600 enrolled patients might receive around $3500/yr depending on target and numbers and percentage of improvement. The other targets of CVD/statin and CVD/ASA depend on the initial ACVR so the additional targets add additional money and visibility.*
>
> Dr. Tana Fishman, GP and Clinical Director of an Auckland PHO (44)

Case Study 2: Northern Territory

Achieving high rates of absolute cardiovascular risk assessment in the Northern Territory.

The Northern Territory Government clinics achieved 72% of Absolute Cardiovascular Risk Assessment population coverage of eligible Aboriginal adults aged over 35[1] between 2015 and 2017 (45, 46). The critical success factors in NT's approach are appraised in Table 1 below using the four-point NZ framework.

Table 1: Absolute Cardiovascular Risk Assessment in Northern Territory Critical success factors:	
One national integrated CVD risk management guideline	Central Australia Rural Practitioner's Association guideline is used throughout NT. Because of NT's extremely high-risk population, it has followed the NZ Guidelines Group precedent of adjusting upwards by one risk category (5% risk) for Indigenous status and commenced calculation at age 20 (effectively, all relevant individuals are assumed to be 35 until their 36th birthday). The risk calculator is embedded in the clinical software.
One CVD risk prediction equation	Achieved for NT.
Integration of the risk equation into the electronic health record	Achieved for NT.
Government policies which give priority to Absolute Cardiovascular Risk Assessment	*Preventable chronic diseases strategy*: a policy framework that has developed over 10 years and across Government changes. *Chronic Conditions Management Model*: measurement and feedback on the practices, which help practices increase participation in Absolute Cardiovascular Risk Assessment (leverage of internal motivation). *Chronic care educators* who educate incoming staff about the program and identify patients who have not had Absolute Cardiovascular Risk Assessment assessed, assessed but treatment not initiated, treated but targets not achieved. They also complete Absolute Cardiovascular Risk Assessment for those not yet seen and flag those with high risk for follow-up. Secure messaging in the electronic health record, activate recall mechanisms. *Adaptation of Medicare*: There is an argument for a standalone Medicare Benefits Schedule (MBS) item for Absolute Cardiovascular Risk Assessment for Indigenous people. *Audit and Best Practice for Chronic Diseases* program – introduced a culture of quality improvement through measurement, continuous quality improvement facilitators and Plan-Do-Study-Act (PDSA) cycles from 2002. *De facto registration of patients* – NT government clinics are the only service providers and there is high utilisation of electronic health records.

Australian Primary Care – an evidence into practice gap

Absolute Cardiovascular Risk Assessment Rates

In Australia, there has been successful scaling of Absolute Cardiovascular Risk Assessment through government clinics in the NT. However, the available evidence suggests that, across the rest of the Australian population, most high-risk individuals are not being assessed and managed for Absolute

Cardiovascular Risk Assessment in mainstream primary care (47-49). A study of 8,505 participants in the Australian Health Survey (2011-12) estimated that 8.2% of the adult population (1.4 million people) were at high risk of primary CVD onset; this is in addition to the 6.2% (1.1 million people) of adults with existing CVD who are also at high risk (20).

An Australian study of 149,306 patients aged 45 years and over reported that CVD risk factors were recorded for 62,214 (41.7%) patients, including 30,670 (53.6%) with a documented cardiovascular condition (50). It was found that only 1.3% of these patients had undergone a complete risk assessment.

In summary, current data strongly suggests that only a minority of people in high-risk groups have been adequately assessed for CVD risk, and that a minority of those with identifiable high risk are prescribed both of the recommended medication types. Increasing capacity to extract general practice data is beginning to illustrate how low rates of screening and treatment in primary care are contributing to CVD events. Overall, mainstream Australian primary care is lagging behind population coverage for Absolute Cardiovascular Risk Assessment in NZ and in the NT.

Contextual factors in Australia

The strengths and weaknesses of the broader Australian context for introducing Absolute Cardiovascular Risk Assessment into routine practice in Medicare-funded primary care services are evident when these are appraised against the four-point New Zealand Framework. See Table 2 below.

Table 2. Australian context

Critical Success Factor	Mainstream Medicare
One national CVD risk management guideline	Australia has the NVDPA guidelines, which the NHMRC and RACGP have endorsed. The NVDPA guidelines come with both patient-focused information and a full package of material for implementation by training delivered at PHN or at practice level.
One CVD risk prediction equation	This exists (it flows from the NVDPA guidelines) and is already embedded in most GP software.
Integration of the risk equation into the electronic health record	This could now happen for 60% of the information technology (IT) and support software in Australian general practice, and could be used for payment by targets.
Government policies which give priority to Absolute Cardiovascular Risk Assessment	No explicit policy recognition although the recently published National Strategic Framework for Chronic Conditions could provide an overarching policy context which could be strengthened by new guidance. The development of Health Care Homes could support the enrolment of populations, but this initiative would need to be scaled beyond current plans to achieve maximum population coverage.

CVD risk management in Australia: the scaffolding in the system

The Triple Aim

The AHPC has noted in previous publications that contemporary best practice aimed at improving the prevention and management of all chronic disease is achieved through application of the three priorities identified in the policy model 'The Triple Aim' (51):

- improving the experience of care;
- improving the health of populations; and
- reducing per capita costs of health care.

Achieving the Triple Aim requires implementation at three broad levels: macro, meso and micro.

1. At the macro level, national organisations such the Australian Government Department of Health would use a population-level lens to plan programs and interventions across a range of services and sectors. Key features are population-level data (to understand need across populations and track health outcomes), population-based budgets (either real or virtual) to align financial incentives with improving population health, and involvement of a range of partners and services to deliver improvements.

2. At the meso level, organisations such as PHNs would develop strategies for different population segments, according to needs and level of health risk. Key features include population segmentation and risk stratification; strategies targeted at different population segments; and developing 'systems within systems' with relevant organisations, services and stakeholders.

3. At the micro level, organisations such as general practices would deliver interventions to improve the health of individuals. Quality and safety is built in the clinical microsystems in which individual patients and their families engage with the health system (52). Macro and meso-systems achieve outcomes through directed support for the clinical microsystems. Key features for successful microsystems include: leadership, organisational support from the macro- and meso-systems, patient focus, staff focus, education and training, interdependence of the care team, information and IT, process improvement, and performance results.

The following discussion assesses the current capacity at macro, meso and micro levels in health policy and services in Australia and their strengths and weaknesses in relation to national implementation of Absolute Cardiovascular Risk Assessment.

Macro-Level Developments

National Policy on Chronic Disease

At the national level, there are a range of programs and initiatives to support prevention and optimal detection and treatment of CVD. Funding is also provided to ensure that quality clinical research into CVD is undertaken and to maintain national monitoring and surveillance measures. The recently published National Strategic Framework for Chronic Conditions highlights that "*timely and appropriate detection and intervention reduces the risk of chronic conditions and/or disease severity*" (Strategic Priority Area 1.4) and acknowledges the NVDPA and RACGP Guidelines on Absolute Cardiovascular Risk Assessment. The framework does not identify mechanisms to enable and support the widespread implementation of the guidelines (6).

Until recently, the PBS regulations classified statins as restricted item. As a result, individuals – including many from low SES and ethnic groups – with high cardiovascular risk were not eligible for PBS reimbursement. These provisions have now changed to unrestricted benefit. This is a welcome step towards improved treatment for Absolute Cardiovascular Risk Assessment. It is estimated that 30% of high-risk Indigenous patients miss out under PBS criteria. Under-treatment occurs due to a single risk factor approach (based on the previous CVD calculations [Framingham]) and this is widely acknowledged to underestimate risk in Aboriginal and Torres Strait Islander populations as well as people from low SES and ethnic groups. This imposes cost barriers for individuals, preventing or inhibiting them from access to recommended therapy, with a high likelihood of subsequent and increased costs to the health care system.

National Guidelines Implementation

National engagement of relevant health professions is critical to national implementation of the guidelines for Absolute Cardiovascular Risk Assessment.

The RACGP has adopted the NVDPA guidelines. The Quality Improvement and Continuing Professional Development programs of health professional colleges could be used to increase the uptake of Absolute Cardiovascular Risk Assessment.

The Australian Primary Health Care Nurses Association (APNA) is working in partnership with the National Heart Foundation of Australia to train nurses in Absolute Cardiovascular Risk Assessment. An online learning module based on the NVDPA guidelines has been developed and is accessed via the APNA website, providing primary health care nurses with a resource to increase and maintain their practice knowledge of Absolute Cardiovascular Risk Assessment.

A National Heart Foundation-funded study of 388 screened patients has demonstrated the capacity of trained community pharmacists to conduct preliminary screening of Absolute Cardiovascular Risk Assessment and facilitate continuity of care with general practice (53).

Meso-Level Developments

Primary Health Networks

Primary Health Networks were established in 2015 and were given the task of increasing "*the efficiency and effectiveness of medical services for patients, particularly those at-risk of poor health outcomes, and to improve coordination of care to ensure patients receive the right care in the right place at the right time.*" PHNs are regional structures charged with achieving these objectives across sectoral boundaries, with GPs, other primary health care providers, secondary care providers and hospitals to facilitate improved outcomes for patients (54). PHNs have been asked to address six priority areas: Aboriginal health, aged care, e-health, mental health, population health and the health workforce. In principle, PHNs have the potential to support the implementation of Absolute Cardiovascular Risk Assessment guidelines at local level. However, there are no specific Absolute Cardiovascular Risk Assessment performance indicators for PHNs currently and little evidence that implementation is widespread and effective.

Micro-Level Developments

Quality Improvement Collaboratives

It has been shown that Quality Improvement Collaboratives (QICs) for primary care (developed at the Institute for Healthcare Improvement in the United States) produce measurable improvement in practice with respect to heart failure, diabetes and other conditions (55, 56). QICs are recognised as effective at reducing the gap between evidence and practice. In the UK, Prof Sir John Oldham demonstrated that QICs can be used 'at scale' to improve chronic diseases management nationwide (56).

In Australia, these results have been reproduced in primary care (57). Almost 750 practices participating in QICs have been shown to have improved the care of diabetes and CVD. These primary care practices (general practices and Aboriginal Health Services), serving approximately 150,000 people, participated in seven improvement collaborative 'waves' between 2004 and 2009. Mean numbers of patients at target HbA1c levels improved from 25% at baseline to 38% in 18 months. Lipid and blood pressure measures showed similar improvement (57, 58).

Based on past performance, the NHMRC *Case for Action* points to QICs as a mechanism for implementation of Absolute Cardiovascular Risk Assessment (59).

Between 2014 and 2015, Improvement Foundation (Australia) undertook a national collaborative program with the aim of preventing CVD, as well as better managing risk in those with CVD. This tenth collaborative 'wave' included a focus on improving the rate and recording of Absolute Cardiovascular Risk Assessment assessments in Australian primary care. Prior to this QIC, there had been few assessments done in the participating practices.
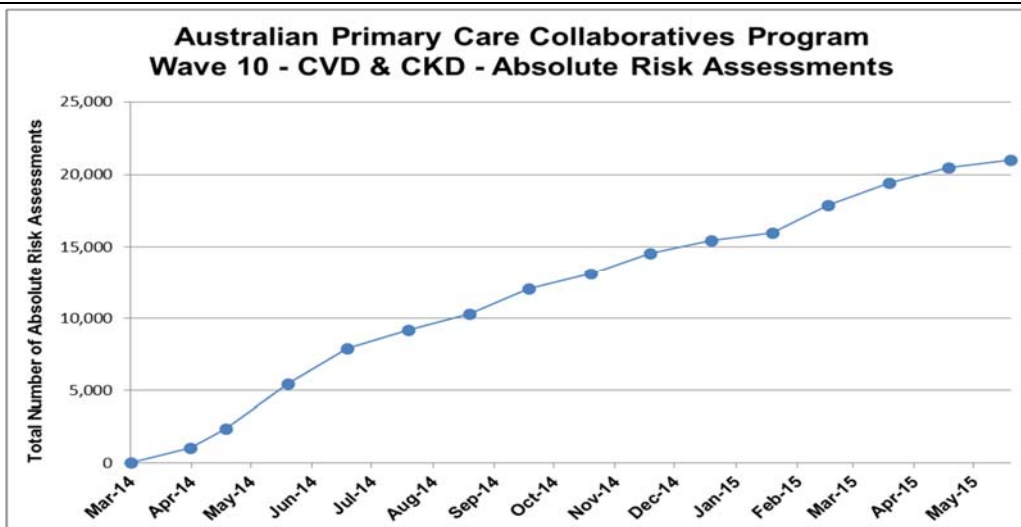
In this wave, the percentage of all patients in participating practices identified as having blood pressure ≤160/100 increased from 27.2% to 33.8%. Wave 10 was effective for improving the rate of Absolute Cardiovascular Risk Assessment assessments and management of those risks.

NPS MedicineWise Insight

The Australian National Prescribing Service's program collects data to assist GPs to improve the quality and safety of prescribing. This is another potential mechanism for implementation of absolute CVD risk assessment through audit and feedback.

Achieving a step change in Absolute Cardiovascular Risk Assessment coverage

Population engagement – marketing of Absolute Cardiovascular Risk Assessment programs

Achieving population coverage for an absolute risk-screening program requires careful planning to engage the public. An overarching social marketing program similar to The Heart Truth campaign in the United States may have a considerable impact on uptake. The Heart Truth was the first federally sponsored national campaign and was credited with contributing to measured increases in female awareness of CVD as the major cause of female mortality and motivation to discuss cardiovascular health with a doctor (60).

Heart Foundation South Australia has undertaken an education campaign to encourage women to have a GP Heart Health Check. This campaign had two elements, the Heart of the Matter Breakfast and a two-week media campaign across radio, newsprint, digital and social media.

The 'My health for life program' in Queensland addresses modifiable risk factors for CVD. 'My health for life' has been specifically designed for people aged 45 years and over who have been identified at high risk of chronic disease (61). The predecessor to this program was 'Know your Numbers', a campaign which ran in New South Wales and Queensland.

Stroke Foundation also runs an annual 'Australia's Biggest Blood Pressure Check' community awareness campaign based on promoting blood pressure checks in pharmacy as the first step in assessing a key risk factor for CVD.

The Canadian Cardiovascular Health Awareness Program, involving risk screening and medical referral through pharmacies, achieved a 9% reduction in cardiovascular admissions to local hospitals compared with control communities (62).

In Australia, there is considerable evidence to suggest the feasibility of preliminary risk screening and referral of at-risk individuals when undertaken by trained professionals in community pharmacies and workplaces (53, 63-66). Central to the efficacy of these models must be integration with general practice for further assessment and management.

GPs have a key role to play in promotion of absolute risk assessments. As a trusted health professional, their direct recommendation of screening to individuals (eg. by signing a letter of invitation) appears to more effectively increase patient uptake than passive promotion in practices via leaflets and posters (67). The impact of direct general practice involvement has been well documented for cancer screening programs (68).

More could be done to inform the public to create 'pull' for Absolute Cardiovascular Risk Assessment. Although there are materials for patients and consumers on the National Heart Foundation Australia (NHFA) website, other NHFA support, and efforts from the APNA to enhance patient engagement, it is difficult for people to understand absolute risk. The British Heart Foundation attempted to get the idea across with the concept of 'heart age'. Depending on the presence of risk factors, a heart age is calculated for individuals accessing the service. It can be used to show how removing a risk factor makes the heart 'younger,' for example, by quitting smoking.

The successful NZ Absolute Cardiovascular Risk program in primary care was linked with a media awareness campaign that featured respected sporting and media celebrities in television commercials targeting key groups. Mass media campaigns should be accompanied by local efforts. Longitudinal studies suggest that mobilising comprehensive community networks to undertake health promotion and health education campaigns in conjunction with primary care can improve health behaviours and risk factors, and facilitate long-term sustainability and impact of programs (69). Preliminary screening in other health settings can be used to improve screening access via stimulating patient referrals to general practice.

Summary

There is strong evidence that Absolute Cardiovascular Risk Assessment, implemented at scale, has an important role to play in the prevention of heart attack, stroke and dementia. Policy and clinical practice in Australia are not yet focused on the importance of achieving population-level Absolute Cardiovascular Risk Assessment coverage. Until this occurs, individuals with risk factors will continue to receive suboptimal treatment and care and healthcare resources will not be targeted efficiently in line with the evidence.

Australia has some of the necessary infrastructure in place for mainstreaming Absolute Cardiovascular Risk Assessment, including robust guidelines approved by the NMHRC and the RACGP. However, these components are fragmented and incomplete. There is a need for an explicit, national policy commitment and investment to build on these strengths and adapt existing mechanisms and structures to mainstream an effective strategic effort to reduce cardiovascular risk in the population.

Next Steps

Translating Evidence for Absolute Cardiovascular Risk Assessment into Policy

Several implementation strategies have been shown, either in Australia or elsewhere, to be critical to the achievement of population-level health prevention strategies. To achieve national and effective implementation of Absolute Cardiovascular Risk Assessment four strategies are needed:

1. improved primary care performance through national targets for population coverage rates for Absolute Cardiovascular Risk Assessment;
2. improved primary care decision support and data collection to assess coverage;
3. financial support for general practice; and
4. extension of care planning to individuals at high risk of CVD.

Increased Primary Care Capacity

Primary care provides the platform through which to achieve effective population-wide Absolute Cardiovascular Risk Assessment. General practices are critical to effective risk detection and management of cardiovascular risk in the population and comprehensive Absolute Cardiovascular Risk Assessment will contribute significantly to detection and management of a range of chronic conditions, particularly dementia, CKD and diabetes (7, 10, 15, 18, 70).

Setting a national framework for effective implementation and achievement of population-wide Absolute Cardiovascular Risk Assessment for high-risk individuals requires agreed national targets with relevant supporting measures. The population-wide coverage target for Absolute Cardiovascular Risk Assessment should be >90% coverage within five years.

Engagement of the population is essential to achieve widespread implementation and uptake of Absolute Cardiovascular Risk Assessment. Experience from NT and NZ is that, in prevention work, such as Absolute Cardiovascular Risk Assessment, defining and reporting on populations, equipping primary health care teams with the ability in particular, to reach those who may be at risk of missing out is crucial to drive increased assessment rates. NZ provides a good case study in how to do this with minimal political costs.

Patient enrolment is considered essential for population health as this enables accurate denominators for calculating the overall health status of the enrolled population, the incidence and prevalence of disease, level and nature of risks, the rate of uptake of Absolute Cardiovascular Risk Assessment and assertive management of risk reduction and treatment regimes. This in turn enables the production of performance reports and crucially, identifying and reaching out to population groups and individuals who remain unassessed or not reviewed.

Enrolment of high-risk population groups could be achieved through *actual* enrolment as in NZ or *virtual* enrolment as was the case in Australia when efforts were made to increase immunisation rates from 50% to over 90% (Appendix II). With either strategy, it is necessary to know the denominator (the population aged 45–74 years) and the numerator to determine the percentage assessed for Absolute Cardiovascular Risk Assessment. In a virtual system, a clinical audit tool (such as the PEN clinical audit tool (CAT) or a similar tool), allows each primary care practice to produce data for its numerator and denominator. Remote areas have de facto population enrolment, as there are single service providers.

Assessment rates of high-risk individuals could be increased through systematic advice to first-degree relatives of individuals who have had a cardiovascular event of the need for an Absolute Cardiovascular Risk Assessment, and by tailoring messages for high-risk patients waiting to see a GP (71, 72). These strategies could be implemented at practice level with support from PHNs, based on agreed national criteria.

There is good international and Australian evidence for quality improvement support teams when major change management is required in general practice (Appendix III). Australian examples of successful rapid change management in general practice include raising immunisation rates (Appendix II); practice computerisation; and practice support for the Collaboratives and for the newly established Health Care Homes.

PHNs have been established to support and enhance the capacity for primary care to address population health needs. PHNs also have capacity to commission services to address the physical health needs of people with co-morbid mental illnesses and to encourage GPs to address the physical health inequities of these patients. There is a well-defined link between severe mental illness and CVD, and good data on the Cost-Effectiveness Of Absolute Cardiovascular Risk Assessment for these patients (73).

National funding could be established and provided to each PHN to build capability in general practices, based on the national approach through PHOs in NZ and the strategy in NT. PHNs would build long-term relationships with practices so that there is trust and cooperation. They would support practices in the implementation of practice-wide Absolute Cardiovascular Risk Assessment, data extraction (for example, using the PEN CAT tool), reporting and benchmarking against peer practices, and assist practices with data interpretation and the identification of high-risk population groups and individuals.

PHNs should also support practices to implement QIC PDSA cycles and measures for QICs, and assist practices to do virtual Absolute Cardiovascular Risk Assessment assessments using data already stored in their computers. This has worked successfully in NZ and NT.

PHNs could be given responsibility for:

- engagement of the at-risk population within their community. People with chronic mental illness should be included as a specific sub-group, reflecting the higher rates of heart disease among some people with chronic and enduring mental illness. Engagement could be achieved through registration or enrolment of individuals at high risk at the practice or PHN level;

- reporting against the Absolute Cardiovascular Risk Assessment target quarterly. This report would be included within the national tier for the PHN Performance Framework; and
- supporting practice-level strategies for informing first-degree relatives of patients who have had a cardiovascular event of the need for an Absolute Cardiovascular Risk Assessment and through tailored information for CVD patients attending general practices (71, 72).

Improved Decision Support and Data Collection to Assess Coverage

Recalls and reminders, clinical audit, decision support, and clinical calculators are essential tools for managing Absolute Cardiovascular Risk Assessment assessments.

Most general practices use computer systems to prescribe, record notes and maintain patient summaries (74). Some of these clinical software programs have built-in ability to provide recalls and reminders, clinical audits, decision support, medication interaction alerts and clinical calculators for parameters such as Absolute Cardiovascular Risk Assessment. The quality of these add-on abilities is known to be variable and the provision of software for clinical decision-making is not regulated in Australia (75). The ability of general practices to take a population health approach to managing high-risk patients would be improved if clinical software was required to perform to a minimum set of standards.

In Ireland, GP software is approved by the Irish College of General Practitioners if it meets a comprehensive set of standards. Electronic GP records potentially provide a rich source of de-identified patient information to assist with health system planning and resource allocation. To unleash this potential there needs to be mandated interoperability.

Support for General Practice

There is evidence that a generic quality improvement payment would not be as effective as a payment for defined objectives (76-78). Currently there is no payment for general practices for health checks for people aged 50–74 years, the age group that should be assessed for Absolute Cardiovascular Risk Assessment as they are most likely to be at risk and most likely to benefit from improved detection and management of CVD risks.

The NHMRC's *Case for Action* recognises that there are time constraints in primary care. If more work is to be done there is a need for additional resources, particularly to increase the availability of practice nursing time. Promotion of point-of-care testing is cheaper, gives immediate feedback of results to patients and saves an appointment. A financial supported payment for primary care implementation could be considered.

Extension of Care Planning to Individuals at High risk of Cardiovascular Disease

Care Planning provisions under Medicare could be extended to individuals who are assessed as being at high risk of CVD. Care plan descriptors for Medicare rebates should require the tracking of risk factors and actions to reduce the risk factors. The percentage of care plans reviewed should be reportable.

Conclusion

This report summarises the strong evidence in favour of a national strategy to raise Absolute Cardiovascular Risk Assessment rates to over 90% among people aged 45–74 and starting at age 35 in Aboriginal and Torres Strait Islanders. Not only does scientific evidence demonstrate the clinical and cost effectiveness of such a policy, but there is practical experience from Australia and other countries that demonstrates what is required to ensure implementation at a scale commensurate with the need. It is time to act on this evidence.

On the basis of international and national evidence, effective implementation of population wide Absolute Cardiovascular Risk Assessment in Australia requires:

1. **Increased primary care capacity.**
- National targets should be set for population-wide Absolute Cardiovascular Risk Assessment coverage rates, aiming for >90% coverage within five years.
- National funding should be established and provided to each PHN to build capability in general practices, based on the national approach through PHOs in NZ and the strategy in NT.
- PHNs could be given responsibility for achieving:
o engagement of the at-risk population within their community. Engagement could be achieved through registration or enrolment of individuals at high risk at the practice or PHN level; and
o reporting against the Absolute Cardiovascular Risk Assessment target quarterly. This report would be included within the national tier for PHN Performance Framework.

2. **Improved primary care decision support and data collection to achieve and monitor coverage**.
- Decision-making and data collection is central to effective population-wide implementation of Absolute Cardiovascular Risk Assessment. PHNs should be in a position to collect data in their catchment area. National standards should be set by the Department of Health in collaboration with the RACGP.

3. **Support for general practice**
- Implement a specific MBS item for Absolute Cardiovascular Risk Assessment.
- High Absolute Cardiovascular Risk Assessment (>=15% over five years) should be considered a chronic disease for the purpose of accessing the specific Medicare item number. A specific Medicare item number for Absolute Cardiovascular Risk Assessment should be added and include a similar descriptor to the current type 2 diabetes item.

4. **Extension of care planning to individuals at high risk of cardiovascular disease**.
- Care Planning provisions under Medicare should be extended to individuals who are assessed as being at high risk of CVD.
- Care plan descriptors for Medicare rebates should require the tracking of risk factors and actions to reduce risk.

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## Appendix I - Heart Foundation Australian Cardiovascular risk charts

Appendix II - Improving immunisation rates: a case study of successful policy.

How do we improve preventive health care through Australian general practice? From 1990 to 1997 the Australian Diphtheria, Tetanus and Pertussis (DTP3) immunisation rate fell to dangerous levels. Between 1997 and 2001 we returned rates to world class levels, and have sustained them since. We did this with a deliberate policy which transformed the general practice provision of immunisation.

Share of children immunized against Diphtheria, Tetanus, and Pertussis (DTP3)
Vaccination coverage of 12 to 23 month old children per year.
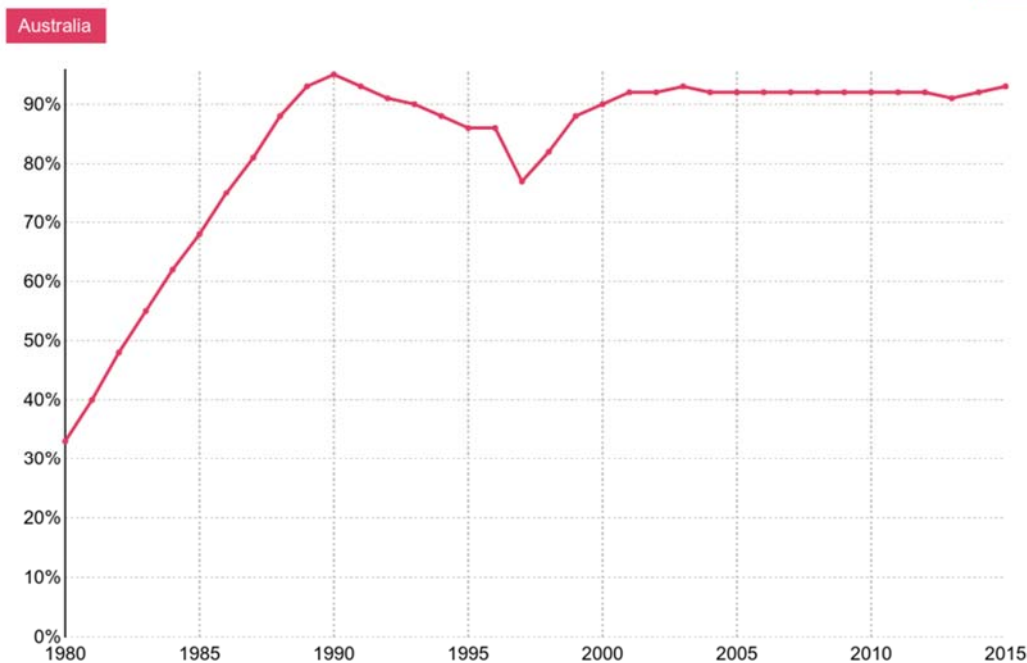
Source: Immunization against DPT – World Bank

OurWorldInData.org/vaccination/ • CC BY-SA

The problem
The chart above shows DTP3 immunisation rates for Australian children aged 12–23 months. Note that in the early 1990s immunisation rates were falling for these (and indeed all other) vaccine-preventable diseases to dangerously low levels. In fact, some estimates suggest rates for overall immunisation in the early 1990s were as low as 50% – ie. much worse than in many developing countries. Measles outbreaks were frequent. Between 1997 and 2000 the problem was fixed. How did we make such rapid change?

A personal perspective on how immunisation rates were transformed
I owned my own practice in 1991–96 just at the time of these changes. I also began studying clinical epidemiology at this time, and wrote my thesis on immunisation. It was fascinating to see evidence-based policy being implemented. There was strong trial evidence that incentives for providers, incentives for patients and local support were effective in increasing immunisation rates. And this is what was done!

In my practice, I started to bill an MBS payment for every immunisation service provided and for every data submission associated with the service. Patients started to receive payments for completing immunisation. In addition, the local (relatively new) Division of General Practice received funding for a

project officer to come and visit me and other GPs and to talk to me about immunisation rates and how I could improve my coverage.

To support all this, the Australian Childhood Immunisation Register was created, and I started to receive reports identifying the children I cared for who were not covered. If I reached a certain rate of immunisation, I could receive an incentive payment. This created a sense of competition and pride amongst practices and divisions as we started to achieve good rates. I sat on the local division immunisation committee. We received practice-level reports and could identify and design strategies to support practices that needed it. Over just three years (ie. spectacularly quickly) the immunisation rate in Australia was transformed and has been maintained ever since.

What does this mean for heart attack and stroke prevention in general practice?
Most importantly, we must remember that it is possible to transform population-based prevention in general practice quickly. We should aim to achieve 90% assessment of the patients aged $\geq$45 ($\geq$35 in Aboriginal patients) within 5 years. As with immunisation, the savings to the health system will be enormous.

It will require measurement
Practices and PHNs will need to use data extraction software to extract measures such percentage of patients who have had their Absolute Cardiovascular Risk Assessment measured. This will need to be fed back to practices and help provided to build systems to improve care. We have the tools now to do this, and many PHNs have systems in place already. Other measures will be required to drive good care, such as incentivising high-quality care planning for patients at high risk and incentivising appropriate care.

It will require investment
We will need to incentivise practices to measure and act on absolute cardiovascular risk. This may involve payment for each service but probably more importantly, payment for achievement of targets. We will need to invest in local capacity to support practices to make these changes. This means PHNs will need resources to develop measurement/reporting systems and to support practices in making change. The return on investment needs to be calculated, but is likely to be very high given the frequency and high cost of cardiovascular events and the relatively low cost of general practice care and medications.

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Appendix III - How PHN staff can support practices to achieve 90% Absolute Cardiovascular Risk Assessment rates.

Establish a quality improvement support team
Taken directly from The Kings Fund, Quality Improvement GP Inquiry discussion paper (79)

While training will be necessary for practices, it is unlikely to be sufficient to ensure rapid adoption of new ways of working. Consortia should provide practical support, in the form of quality improvement support teams (QISTs), to help practices implement the quality improvement techniques that they learn during training. The evidence confirms that practical advice and coaching from trained improvement leaders can effectively help staff apply quality improvement techniques

This facilitative approach to supporting quality improvement activity is similar to the Medical Audit Advisory Group (MAAG) model used in the 1990s, which was a key factor in the successful spread of audit in general practice. Some of the following lessons, learned from the MAAG experience, are likely to apply to QISTSs too.

- Professional leadership by respected local peers is essential if practices are to engage effectively.
- The QIST's role should be to promote reflection, learning and culture change, as well as new approaches to measurement and system improvement.
- The QIST should provide a source of high-level technical expertise.
- A multidisciplinary approach should be taken, incorporating expertise and leadership by nurses and managers as well as doctors.
- The work of the QIST should be aligned with the vision and priorities of the consortium as a whole, and should link with and inform other measurement and improvement activities.
- Greater benefits will be achieved for patients and practices if ideas, experiences and data are shared between practices as well as within them. This could extend to a policy for cross-practice PDSA cycles, in which new innovations are redefined through piloting in one practice before being rolled out more widely, thus saving time and improving efficacy across all practices.

This approach would complement quality improvement training, providing practice staff with opportunities to observe the values and tools of quality improvement in practice, and receive on-the-job coaching in their application. It would enable patients to bene t from improvement ideas more quickly, provide economies of scale and present a formal opportunity to share detailed improvement ideas among member practices.

A central resource of quality improvement expertise in the consortium could also act as a focus for the collection and analysis of data on practice performance and patient outcomes, providing information to support regulatory and other functions. This would help to reduce duplication of effort, and to place a stronger emphasis on improvement than performance management in the consortium's approach to measurement