CASE FOR ACTION-
PROPOSAL TO NHMRC

The right care for the right patient at the right time: Improving the identification and management of absolute cardiovascular risk in the community

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Submitted by the Research Translation Faculty Primary Health Care Steering Group (October 2014)
The National Health and Medical Research Council (NHMRC) Research Translation Faculty (the Faculty) was established as a key advisory forum in 2012. The primary work of the Faculty for the 2013-15 Triennium has been to help NHMRC accelerate the translation of research by identifying the most significant gaps between research evidence and health policy and practice in each of the major health areas in the NHMRC Strategic Plan, and to propose to NHMRC possible action it could consider taking to address that gap – these are called Cases for Action. In April and May 2013, fourteen Faculty steering groups were established as NHMRC working committees to each oversee the development of a Case for Action.

The Faculty’s Primary Health Care Steering Group is comprised of a range of experts and includes primary (1°) and secondary (2°) representatives of NHMRC Health Care Committee (HCC), Prevention and Community Health Committee (PCHC) and Research Committee (RC). Further information is available at: www.nhmrc.gov.au/research/research-translation/research-translation-faculty/research-translation-faculty-steering-groups.

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Declaration of interests

The declarations of interests of Steering Group members, authors and contributors are available at Appendix 1.

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HCC – Health Care Committee; PCHC – Prevention and Community Health Committee; RC – Research Committee
The right care for the right people at the right time: Improving the identification and management of absolute cardiovascular risk in the community

1. Rationale

Cardiovascular disease as the major cause of death, disability and health expenditure in Australia

Cardiovascular disease (CVD) remains the largest cause of death and disability in Australia. The latest report on *Australia’s Health 2014* advises that 14.6% of Australia’s deaths are due to coronary heart disease and 7.7% due to cerebrovascular disease – together contributing to 22.3% of deaths in Australia. The next most common cause of death at the much lower rate of 6.7% is dementia (1). Coronary heart disease is also the number one cause of disability in Australia, accounting for 7.8% of all lost Disability-Adjusted Life Years (DALYs). When combined with cerebrovascular disease, which accounts for a further 3.1% DALYs, cardiovascular disease accounts for 22.3% deaths and 10.9% of disability in Australia (1).

Cardiovascular disease also accounts for the greatest burden of health expenditure in Australia at 10.4% of total costs or $7.74 billion per year with half of this expenditure being on hospital-based treatment (1, 2). We also know that greatest risk factor for cardiovascular disease is increasing age and, as Australia’s population ages, the burden of cardiovascular disease will inevitably increase (3). It is estimated that, in 2007-2008, more than **3.5 million Australians** had long-term cardiovascular disease (2).

Cardiovascular disease and health inequalities in Australia

Not only is cardiovascular disease the greatest contributor to mortality, morbidity and expenditure in Australia, it is also significantly more prevalent in Australians with lower socioeconomic status, Indigenous Australians and those living in rural and regional areas, therefore contributing substantially to health inequalities. In August 2014, the National Heart Foundation released snapshot data from the 2011/2012 Australian Health Survey showing that Australians outside capital cities have a significantly higher risk of vascular disease (4). This is partly due to poorer access to services but is also attributed to higher absolute cardiovascular risk. Australians with coronary heart disease who have lower socioeconomic status have a 40% higher death rate and there has been a much slower decline in rates of heart disease in poorer Australians compared with the wealthy (5). **More than 1 in 10 Aboriginal and Torres Strait Islander people**

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1 Disability-adjusted life years (DALYs) are a summary metric of population health. DALYs represent a health gap; they measure the state of a population’s health compared to a normative goal. The goal is for individuals to live the standard life expectancy in full health.
have a long-term cardiovascular condition with the age-adjusted prevalence 1.3 times as high and CVD death rate 1.8 times as high as that of the non-Indigenous population (6).

Clearly, CVD is a major health issue for Australia. It is critical that we optimise the prevention of CVD in people with potentially modifiable risk factors for the disease. While a range of effective CVD prevention strategies exists, particularly in primary care, there is a major gap in how these strategies are being applied. This means that there millions of Australians who are not receiving optimal care and people at risk of the disease needlessly end up suffering the disability, are less productive, or die due to the disease.

The gap lies in how CVD management is being applied. Many practitioners are using an individual risk approach to understanding risk which is inconsistent with current evidence and practice guidelines – this has to change – Australian practitioners need to be supported to apply the key elements of optimal CVD management. This is the application of the Absolute Risk Factor approach in disease management.

The strength of evidence for effective primary prevention of cardiovascular disease: Using an absolute cardiovascular risk approach

Over 90% of Australian adults have at least one modifiable CVD risk factor, while 64% have three or more (7). Current NHMRC-endorsed guidelines support an absolute CVD risk management approach to reducing the burden of CVD in Australia (7). This is based on knowledge that individual CVD risk factors such as blood pressure (BP) and lipid levels have a continuous association with the risk of CVD events and that moderate reductions in several risk factors will be more effective in reducing overall CVD risk than a major reduction in one risk factor alone. Absolute CVD risk assessment and management is therefore likely to have the greatest effect on lowering an individual’s risk of cardiovascular events. Recent European cohort studies further suggest the possibility of reducing health inequalities with higher absolute CVD risk being associated with lower socioeconomic status. Ten-year absolute CVD risk was reduced in these models by about 10% after 5 years whereas low absolute CVD risk patients remained the same (8).

Absolute cardiovascular risk assessment and management focuses on primary prevention of coronary heart disease and stroke (7). It stratifies adults aged 45 years and over (and Indigenous patients 35 years and over) without a known history of CVD into three CVD risk levels and recommends more ‘aggressive’ treatment for those with the highest baseline risk since they will have the greatest potential benefit to outweigh any costs and/or harms associated with treatment (see Figures 1 & 2).

Elevated blood pressure (BP) is the longest established CVD risk factor and therefore a test case for change in approach from management of an individual risk factor to an absolute risk approach. Achieving optimal control of BP is an identified evidence-practice gap (9). In August 2014, the Lancet published a
meta-analysis of individual patient data from 11 trials of 51,917 participants with risk algorithms dividing them into 5-year absolute CVD risk categories of <11%, 11-15%, 15-21% and >21%. They found that treating 1000 patients in each group with BP-lowering medication for 5 years would prevent 14 (95%CI 8-21), 20 (8-31), 24 (8-40) and 38(16-61) CVD events, respectively (P=0.04 for trend) (10). In other words, by identifying 1000 patients with an absolute CVD risk of >21% and lowering their BP, 38 heart attacks and/or strokes would be prevented over 5 years. On the other hand, identifying 1000 patients with an absolute CVD risk <11% and treating their BP would prevent 14 CVD events over 5 years. With estimates that more than 60% of Australians have three or more modifiable CVD risk factors, this approach is likely to prevent a substantial number of CVD events across the population. The authors recommend that ‘a blood-pressure lowering treatment should target those at greatest cardiovascular risk, not just those with the highest BP level. A risk-based approach is likely to be more cost-effective than a blood-pressure-based approach, and could simultaneously reduce the numbers of patients needing treatment, and control drug costs, while increasing the numbers of averted strokes and heart attacks.’

Most elevated BP is managed in general practice and it is the commonest condition managed there, accounting for 9 out of every 100 consultations (11). This latest evidence builds on earlier work, from an individual patient meta-analysis of more than 135,000 patients showing that an absolute CVD risk approach to statin use to lower LDL cholesterol also increased the number of CVD events averted. For example, if 1000 patients with a 5-year CVD risk of 20-30% have their LDL cholesterol levels reduced by 1 mmol/l then 20 vascular deaths will be avoided and 61 major vascular events avoided over 5 years (12).

A 2014 study published in Hypertension also provides support for the value of the AR approach in patients with type 2 diabetes. It found that a multivariable treatment algorithm can identify those individuals who benefit most from blood pressure–lowering therapy in terms of absolute risk reduction of major adverse cardiovascular events and may be used to guide treatment decisions in individual patients with diabetes (13).

These NHMRC-endorsed guidelines for Australians are the combined work of all four member organisations of the National Vascular Disease Prevention Alliance (NVDPA) – the National Heart Foundation, the National Stroke Foundation, Diabetes Australia and Kidney Health Australia.
Figure 1 – Absolute risk assessment and management for adults over 45 years (7)²

² EBR= Evidence-Based Recommendations, CBR= Consensus-Based Recommendations and PP=Practice Points (Practical guidance to support implementation)
Figure 2 – Absolute risk assessment and management for Indigenous Australians over 35 years (7)³

³ EBR= Evidence-Based Recommendations, CBR= Consensus-Based Recommendations and PP=Practice Points (practical guidance to support implementation)
Economic benefits of the absolute CVD risk approach to primary prevention

One Australian cost-effectiveness study has estimated that appropriate prescription of BP-lowering medication and statins using the absolute risk approach would save $5.4 billion for the Australian Government over the lifetime of population aged 35-84 years in 2008. This could increase to $7.1 billion if statin prices were matched to New Zealand rates (14).

The size of the evidence-practice gap

There is some emerging evidence about the uptake of the absolute CVD risk approach to prevention (15). One analysis used BEACH, Practice Incentive Program and the AusDiab datasets to estimate that at a threshold for treatment of 5% absolute risk, 2.3 million Australians would be eligible for treatment, of whom only 1.1 million are already on it. However, 1 million Australians who currently take preventive drugs would no longer be eligible (14). In other words, 1.2 million Australians are missing out on preventive treatment and 1 million are taking medication who should not be - the right treatment is not necessarily getting to the right patient at the right time.

Furthermore, although an absolute CVD risk approach is potentially more than twice as effective in reducing death from CVD than treating people with a single risk factor approach (16) several Australian studies have identified that patients are missing out on appropriate evidence-based treatments. Data from 2618 consecutive adult patients presenting to 99 GPs in 2009 found that only 23% of patients with high absolute CVD risk had been prescribed both antihypertensive medication and a statin (17). Even patients who had a history of CVD (secondary prevention) had been prescribed these recommended treatments in 53% of cases in one study (17) and 50% in another (18). A recent analysis of a random sample of concession card-holders found these results have not improved and that only 42% of high coronary risk patients had been prescribed a lipid-lowering drug between 2006 and 2013 (19). The gap is similar amongst Indigenous Australians suggesting that deficiencies across the health system are to blame.

Barriers contributing to the evidence-practice gap

Persistent individual risk-based prescribing patterns amongst GPs

A recently published Australian study showed that GPs given a number of hypothetical cases were more likely to prescribe according to individual risk factors than absolute CVD risk (20). Reluctance to embrace an absolute risk approach can be associated with many factors including lack of time, lack of familiarity with this approach, patient factors and an over-reliance on ‘personal judgment’ (21). Another barrier to the use of an AR approach is physician concern regarding ‘legacy’ effects in treating elevated BP or lipids (22).
**Time constraints in primary care**
The median consultation time in general practice in 2009-10 was 14.0 minutes and 59% of these consultations involved managing a 'new problem' and, on average, each consultation addressed 1.5 problems (23). Time constraints have been a long-term barrier to the uptake of evidence in general practice and continue to be a challenge. However, GPs have suggested that structured processes and tools to assist a more efficient application of evidence within the consultation would be welcome (24). Research in Australian general practice suggests that absolute risk assessment and explaining this to patients took a median of 14.2 minutes (25).

**Inconsistencies and limited coordination between primary care providers**
There has been limited engagement with the range of health professionals potentially working in CVD prevention. Whilst general practice is the most common context for CVD risk assessment and management to occur, information and advice needs to be consistent across the sector and awareness about the absolute risk approach needs to extend to other health care providers such as nurses, pharmacists, dietitians, physiotherapists and other allied health practitioners. Allied health and nursing professionals have a major role in prescribing and monitoring exercise, physical activity, diet, social participation, smoking cessation and alcohol reduction and these lifestyle factors are known to be associated with CVD.

**Lack of community awareness about absolute CVD risk and low health literacy**
It’s been estimated that around 59% of adult Australians have inadequate health literacy levels (26). This can lead to problems with adherence to treatment, poor health-seeking behavior and worse health outcomes (27). Media messages can also contribute to confusion in the community. For example, recent publicity about statin safety on ABC Catalyst and other programs has led to some confusion and uncertainty in the community possibly influencing attitudes to medication even amongst those at high risk.

**PBS restrictions for prescribing statins are not consistent with the guidelines**
Pharmaceutical benefits scheme restrictions for prescribing statins are based on an individual risk factor approach with multiple qualifying criteria NOT calculated absolute CVD risk. Currently patients can only receive PBS-subsidised statins for secondary prevention unless lipid levels reach particular thresholds (e.g. total cholesterol >9mmmol/l or people with a family history of CVD and cholesterol >6.5mmol/L). This is a problem because many patients with high absolute CVD risk are from lower socioeconomic status and would be possibly have difficulty paying full price for statin therapy although many now are available now in generic form. For example, 30% of high absolute CVD risk indigenous patients in one study would not qualify for statin subsidies under current PBS criteria (28).

**Lack of a coordinated and systematic approach to implementation**
The process of developing our case for action revealed a large number of stakeholders but no systematic approach to implementation as outlined in the following section.
Current policy and practice on absolute CVD risk assessment and management in primary prevention

As mentioned earlier in this paper, some have estimated that only 35% of patients with high absolute CVD have been prescribed an antihypertensive and a statin in line with guidelines recommendations (18). On the other hand, 20% of low risk patients were prescribed an antihypertensive and a statin who would not be eligible under the guidelines (18). It is likely that around 50% of low risk patients are currently prescribed either an antihypertensive or statin. The latter are a large group who potentially are being over-treated and the former are most likely to benefit yet are being undertreated since 35%, 10% and 20% of patients over the age of 55 years in general practices were classified as low, moderate and high absolute CVD risk respectively (18). There are a number of stakeholders with programs and strategies aiming to increase the uptake of absolute CVD risk assessment and management. The Primary Health Care Steering Group contacted some of those relevant to this issue in primary care and included the following summary of program activity.

National Vascular Disease Prevention Alliance
The National Vascular Disease Prevention Alliance (NVDPA) is an alliance of four leading Australian charities – Diabetes Australia, the National Heart Foundation of Australia, Kidney Health Australia and the National Stroke Foundation. The alliance was founded in 2000 with the aim of reducing the burden of cardiovascular disease in Australia. Their major focus has been the development of the ‘Guidelines for the Management of Absolute Cardiovascular Disease Risk’ which were initially released in March 2009 and updated in 2012 (7). These have endorsed by the NHMRC. They have also developed an absolute cardiovascular risk calculator and a consumer resource called ‘Manage your risk’. Their ongoing focus is to advocate an absolute risk approach with government, health professional bodies and to raise awareness among health professionals.

The National Heart Foundation
The National Heart Foundation (NHF) is the lead organisation within the NVDPA for this issue and has the implementation of absolute CVD risk enablers within its 2013-2017 Strategic Plan. They aim to increase absolute CVD risk assessment rates through Medicare Locals and to develop and disseminate tools and resources to health professionals and patients. These tools may include guidelines, clinician aids, patient aids and tools. They plan to undertake some recalibration of the risk calculator, mapping of absolute CVD risk from the Australian Health Survey and to develop a separate absolute CVD risk tool for ATSI patients. They also hope to facilitate training, quality improvement, data collection through PenCAT and care pathways (see Medicare Locals and Improvement Foundation below). They are also liaising with the medical software association about integration of risk assessment and decision support within software programs. They plan to use GP and practice nurse champions to assist with implementation and have specific plans to work with the Nursing in General Practice program with practice nurses.
Medicare Locals
Medicare Locals (and their replacement Primary Health Networks (PHNs) are potentially an important enabler of implementation through the delivery of training, facilitating data collection through tools such as the PenCAT software, through the use of local champions in a range of primary care providers and through the new 'Health Pathways' projects that provide GPs with locally-relevant protocols and referral pathways via a web-based portal. The NHF is working in partnership with Medicare Locals to try and use these mechanisms to increase the use of absolute CVD approach to primary prevention.

Primary Care Collaboratives and the Improvement Foundation
The Improvement Foundation is a not-for-profit organisation providing consultancy and training services in quality improvement. They work with numerous Medicare Locals and Aboriginal Community Controlled Health Organisations and have particular expertise in the collaborative methodology for change management. They are a potential mechanism for the implementation of absolute CVD risk approach to primary prevention.

Commonwealth Department of Health, PBS and MBS sections
The Department of Health has a number of programs promoting healthy lifestyles such as 'Healthy Weight' and 'Healthy Spaces and Place' but no specific programs promoting awareness of absolute CVD risk and its management.

Medicare Benefit Schedule (MBS) pro formas for health assessments in ATSI adults still use an individual risk approach and do not include any absolute CVD risk assessment. The Practice Incentive Program (PIP) encourages quality improvement and better health outcomes for patients. The program currently includes payments for activities related to diabetes, immunisation, asthma and others but not for absolute CVD assessment and management. The Pharmaceutical Benefits Scheme (PBS) criteria for prescribing statins also continue to use an individual risk approach and are not consistent with current NHMRC-endorsed guidelines. The Australian Commission on Safety and Quality in Health Care has programs in health literacy and in reducing variation in practice that may be a mechanism for increasing use of the absolute CVD approach.

NPS Medicine Insight
The National Prescribing Service (NPS) has developed a program which collects data to assist GPs to improve the quality and safety of their prescribing. This is another potential mechanism for implementation of an absolute CVD risk approach through audit and feedback.

Professional colleges and associations
The RACGP Guidelines for Preventive Activities in Australia includes an absolute risk approach to CVD risk assessment and management. Despite the consistency of these guidelines with the NVDPA ones, the barriers outlined earlier remain problematic. There is also potential to use RACGP QA and CPD activities to increase skills and uptake of the absolute CVD approach. Practice nurse associations have also been engaged in partnership with the NHF to train and raise awareness of absolute CVD amongst nurses. Allied Health professional
associations are in the early stages of developing guidelines on lifestyle factors such as physical activity and diet.

**Medical software companies**
Several widely used medical software program have risk calculators within their programs but their accuracy is uncertain and they are not linked to management recommendations. There is a need to work with companies to ensure the quality and accuracy of included tools and their consistency with the NVDPA guidelines.

**Food Industry**
Concerns have recently been raised about cholesterol and BP checks offered in supermarkets since October 2013. It is therefore important to consider including industry in discussions about CVD primary prevention programs to ensure consistent messages to the community and to raise awareness.

**University curricula**
The Australian Medical Council (AMC) and other professional accreditation bodies could also be involved in ensuring that teaching about CVD prevention is consistent with the NVDPA guidelines and teaches absolute CVD risk assessment and management.

**Alignment with the Major Health Issues (including the National Health Priority Areas identified in the NHMRC Strategic Plan)**

One of the Major Health Issues within the NHMRC Strategic Plan is 'Primary Health Care (p7); helping practitioners and patients to gain value from research evidence, especially in areas of health inequalities'. As outlined above this Case for Action addresses a large evidence-practice gap for a high burden disease that is more prevalent amongst Australians of lower socioeconomic status and of Aboriginal and Torres Strait Islander background. The NHMRC Strategic Plan 2013-2015 states that one of the ways it will deal with these major health issues is through 'accelerating research translation by identifying evidence-practice gaps and developing evidence-based advice to government on bridging the gaps’ (p10). It also states that it will ‘work with partners – State and Territories, health bodies, health industry and community and consumer groups to ensure that the benefits of research are realized as soon as possible’.

‘These will include bodies such as the Independent Hospital Pricing Authority, the National Health Performance Authority, the Australian Commission for Safety and Quality in Health Care, the Australian national Health Prevention Agency, Cancer Australia, the Australian Institute of Health and Welfare, the Therapeutic Goods Administration the national Lead Clinicians Group, PHNs, Local Area networks as well as non-government organisations and philanthropic and charitable organisation research funders.’

**Alignment with other aspects of the NHMRC Strategic Plan 2013-2015**
This Case for Action also aligns with the National Health Priority area of Cardiovascular Disease, with improving the health of Aboriginal people and
Torres Strait Islanders through the support of health research and its translation and with ‘Improving care of patients with multiple and complex chronic disease’.

2. Action Plan

**Current evidence for effective strategies to implement absolute CVD risk assessment and management for primary prevention**

*General evidence on effective strategies for guideline implementation*

Over the past two decades, there have been many systematic reviews of RCTs to identify effective strategies for the implementation of clinical guidelines. One synthesis of these by Australian researchers included 33 systematic reviews of 714 studies involving 22,512 clinicians in a range of healthcare settings (29). Some of the effective strategies they identified have already been included in the implementation strategy of the NHF and NVDPA – decision support systems and reminders, interactive educational meetings, and credible evidence based guideline content with low complexity. Although limited, there is evidence about strategies that are likely to have some effect on guideline compliance. The findings of one Cochrane review, for example, concluded that financial incentives may be effective in changing clinician behaviour (30).

Some of the NHF/NVPDA implementation strategies have uncertain and variable effectiveness – audit and feedback, CME and local opinion leaders. Importantly, there are effective interventions that appear to be missing from current implementation efforts include educational outreach/academic detailing and patient-specific strategies. Overall, the most effective implementation strategies for clinical guidelines are multi-faceted.

*CVD-specific studies in decision-support systems and training for clinicians*

Two Australian randomised controlled trials have recently shown a potential strategy to at least partially overcome this barrier (31, 32). Peiris (32) has shown a significant improvement in prescribing for under-treated high CVD risk patients using an integrated decision-support program. The ‘Healthtracker’ intervention included an absolute CVD risk assessment and point of care decision support tool integrated with software, risk communication and audit components. Compared with usual care, the intervention resulted in a significant increase in absolute CVD measurement (53% vs 63%), significant increase in prescription of recommended treatment in high-risk patients (51% vs 57%) and a significant improvement in prescription and control of risk factors in under-treated high-risk patients (21% vs 38%). The ART study showed changes in absolute CVD assessment but there were insufficient numbers of high risk patients to demonstrate changes in prescribing for this group (31).

*CVD-specific studies of patient decision aids and shared decision-making*

There are four RCTs of patient decision aids on CVD prevention in the most recent update of the Cochrane review (33). These show an increase in patient preferences for medication to reduce cardiovascular disease risk when a decision aid was used compared to usual care (63% vs 42%) and an increase in uptake of statins and other medications in diabetic patients after exposure to the
decision aid (33%), compared to usual care (22%). It is not known whether this approach would be effective in reducing ‘overuse’ of medication in lower risk patients, although in other contexts patient decision aids tend to result in patients choosing the more conservative option (e.g. less invasive elective surgery, less PSA screening tests).

A proposed model for implementing CVD absolute risk assessment and management in Australian general practice

One qualitative study with Australian GPs and patients suggests that barriers to implementation of absolute CVD risk assessment and management could be overcome through positive attitudes towards this approach from GPs and patients, longer consultations, good communication skills and a trusting relationship between GP and patient. Both GPs and patients supported the idea of self-assessment of risk by patients before the consultation and a shared decision-making approach during the consultation (34). Practice support staff could be engaged in assisting with prior self-assessment and in follow-up and referrals.

We propose a package of action items for the NHMRC entitled ‘Absolute CVD Risk: The right care for the right people at the right time’

**ACTION 1:** The NHMRC produces a public statement for media coverage promoting absolute CVD risk assessment and management for non-Indigenous Australians over the age of 45 years and Indigenous Australians over 35 years. This should raise community awareness about the burden of cardiovascular disease in Australia and the message of ‘Know your risk’ through the use of absolute CVD risk calculators and management through primary care providers. This will create a ‘pull’ from the consumer end while informing all practitioners that they need to be up to date.

**ACTION 2:** The NHMRC produces an Evidence-Based Position Statement aimed for use by researchers, clinicians, academics highlighting the evidence-practice gap and the NHMRC’s endorsement of absolute CVD risk assessment and management. This position statement should include ‘Assessment, Decision-Making and Management for CVD prevention’ to make clear that the lead health agency in Australia strongly endorses this approach.

**ACTION 3:** The NHMRC liaises across government to ensure that MBS items and PBS prescribing criteria are consistent with the guidelines. In particular, current ATSI Health Check items should change to an absolute risk approach and PBS statin prescribing should be based on absolute risk in the primary prevention population. This will mandate prescribing doctors to do an absolute risk score prior to prescribing. This makes the ‘right choice the easy (or only) choice’ in daily practice.

**ACTION 4:** The NHMRC facilitates a ‘Forum for Action’ to assist current efforts by the NVPDA to implement their guidelines. The NHMRC Research Translation Faculty could through this process facilitate and
provide expertise towards a systematic and coordinated approach to implementation and monitoring of absolute CVD risk. One important outcome for this group would be to map, evaluate and prioritise strategies across the sector. The group should include NVPDA members, particularly the NHF and to involve medical software companies, food industry, professional colleges and educators, consumer representation, Aboriginal Community Controlled Health Services, PHNs, the Improvement Foundation as well as government agencies such as AIHW, NPS Medicine Insight and the ABS to develop coordinated solutions and systems for monitoring their impact. An important component of this could be to build on NHF ‘mapping’ of CVD risk with targeted strategies for particular communities. Implementation science and health economics expertise should be included in this process and could be drawn upon from within the NHMRC Research Translation Faculty membership. The Australian Commission on Safety and Quality in Healthcare could be included to synergise with their practice variation, health literacy and shared decision-making initiatives. This initiative would strategically embed the absolute risk factor approach to CVD across sectors.

**ACTION 5: The NHMRC explores ways in which existing NHMRC research and people support can enhance this CFA.** Some suggestions for the NHMRC's consideration include 1) Encouraging the development of proposals through the Partnership Grant Scheme or Partnership on Prevention program. This might include some seed funding to assist with proposal development. 2) Encourage and promote this topic for TRIP and other fellowships thereby building capacity in research translation and enhancing implementation. In addition, the NHMRC could explore the possibility of joint research fellowships with relevant stakeholders. 3) Promote Indigenous-based research in this field and highlight available special scholarships for Indigenous researchers. 4) Collate a portfolio of funded research and researchers in this field. This could be a very useful knowledge-base for discussion at the Forum for Action. 5) Explore international collaborative action and funding on this topic through such organisations as the Global Alliance for Chronic Disease and other research funding organisations.

**ACTION 6: The NHMRC considers ways of promoting and recognising good quality implementation research methodology.** Models within other institutions such as the Canadian Institute for Health Research’s knowledge translation programs should be explored and adapted for the Australian context to enable evidence-practice gaps such as this CFA to be addressed.

**ACTION 7: The NHMRC Research Translation Faculty establishes an ongoing Taskforce group to facilitate the Case for Action’s implementation and its evaluation.** This may require the NHMRC to work with the National Health Performance Authority on GP performance indicators for the Healthy Communities Report.
Evaluation measures and benchmarks for success
The establishment of the Forum for Action will allow for the potential collation of a range of evaluation measures at a local as well as national level.

*Local-level evaluations:* These would include using practice software audit tools (PenCAT) that are used through Medicare Locals to collect de-identified absolute risk rates and prescribing data at the local level. Primary care collaboratives facilitated by the Improvement Foundation might be another source of local-level data over time as well as NPS Medicine Insight.

*State and National evaluations:* The current NHF-funded research which maps absolute CVD risk and CVD event rates from the ABS Australian Health Survey would be an important source of longer term evaluation. The Forum for Action could also engage the AIHW in changing their reports on *Australia's Health* to track absolute risk rather than the current individual risk approach.

**Timeframe and ethical issues:**
The seven Action Items for the NHMRC in the ‘Absolute CVD Risk: The right care for the right patient at the right time’ package could be implemented within two years.

The implementation programs of the stakeholders listed above will run over the next five years. The NHMRC Research Translation should continue to play a role in facilitating the implementation and evaluation of the Case for Action.

Appropriate consent mechanisms exist for use of de-identified practice-level data and these would need to be complied with through agents such as the Improvement Foundation and Medicare Locals. Additional consent and privacy issues will need to be considered for ATSI populations particularly the community-controlled practices.

### 3. Potential Impact:

**Impact on health outcomes:**
Better-targeted therapy will ensure that individuals with a high likelihood of myocardial infarction and stroke will be identified and treated. The effect of medication on the risk of heart attack or stroke has consistent relative risk reduction and therefore the health benefits and numbers needed to treat are lowest in these high-risk individuals. Recent publications report that if 1000 patients with a 5-year CVD risk of 20-30% have their LDL cholesterol levels reduced by 1 mmol/l then 20 vascular deaths will be avoided and 61 major vascular events avoided over 5 years. Similarly, by identifying 1000 patients with an absolute CVD risk of >21% and lowering their BP, 38 heart attacks and/or strokes would be prevented over 5 years.

**Impact on health service delivery:**
As stated earlier, one study estimates that 1.2 million Australians are missing out on preventive treatment and 1 million are taking medication who should not be -
the right treatment is not necessarily getting to the right patient at the right time. Thus many low risk individuals would avoid the side-effects and costs of being medicalised and receiving drug therapy. More importantly it will free up primary care services to treat those most likely to benefit. Thus treatment will be better targeted without additional burden to the system.

**Impact on health expenditure:**
One Australian cost-effectiveness study has estimated that appropriate prescription of BP-lowering medication and statins using the absolute risk approach would save $5.4 billion for the Australian Government over the lifetime of population aged 35-84 years in 2008. This could increase to $7.1 billion if statin prices were matched to New Zealand rates. The desired outcome is better targeting of therapeutic interventions. With fewer low risk and more high-risk individuals being targeted for drug therapy the economic impact is likely to be improved cost-effectiveness. This benefit will accrue from the outset. Combination treatment for high-risk individuals is cost-effective leading to substantial additional health benefits by averting an additional 63 million DALYs per year worldwide.

**Number of people affected:**
It is estimated that, in 2007-2008, more than 3.5 million Australians had long-term cardiovascular disease and this will increase as the Australian population ages. The AusDiab study found that an estimated 30% of Australians aged 25 and over had high blood pressure (≥140/90 mmHg) and 52% high cholesterol (>5.5 mmol/L). Many of these are unrecognised and many require attention to antecedent risk factors rather than medication. These benefits of improving physical activity, diet & smoking are manifest for CVD & other chronic diseases. Hence broad population health benefits are likely.

**Anticipated timeframe to impact:**
*Immediate to intermediate (3-5 years):*
Programs for implementation as outlined in this Case for Action could feasibly be rolled out over a 3-5 year plan resulting in early savings in medication costs as prescribing patterns change. Changes to CVD event rates would probably not be detectable until towards the end of this period.

*Longer-term (5-20 years):*
More substantial reductions in CVD event rates and ongoing savings would be more evident beyond 5 years, particularly as the number of people over the age of 55 years will continue to increase in the Australian population.
References
25. Qing W. An Implementation Model of Cardiovascular Absolute Risk Assessment and Management in Australian General Practice: Development and Feasibility. UNSW; 2010.
32. Peiris D. The TORPEDO trial. 2014.
Primary Health Care Case for Action - Declarations of Interests

The declarations of interests of Steering Group members, authors and contributors to this Case for Action are listed below.

<table>
<thead>
<tr>
<th>Name and Role(s)</th>
<th>Interests declared</th>
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<tbody>
<tr>
<td><strong>Prof Lyndal Trevena</strong></td>
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</table>
| • Steering Group Chair                    | Grants  
| • Author                                  | • Applied for NHMRC grants, received previously  
|                                          | • Received NHMRC grant (cardiovascular disease).  
|                                          | **Support for travel/accommodation and meals/beverages**  
|                                          | • Previously NHMRC HRT working party.  
|                                          | **Speeches/lectures**  
|                                          | • Keynote at International Shared Decision Making Conference 2011.  
| **Prof Meg Morris**                       |  
| • Steering Group member                   | • Nil interests to declare.  
| **A/Prof Duncan Mortimer**                |  
| • Steering Group member                   | **Current funding**  
| • Health Care Committee (HCC) primary contact | • Victorian Neurotrauma Initiative.  
|                                          | **Past funding**  
|                                          | • NHMRC; ARC; Victorian Neurotrauma Initiative; Australasian Sleep Trials Network; Wound Care Industry Council, Medical Industry Association of Australia; Therapeutic Goods Administration; Commonwealth Department of Health and Aged Care; Department of Child and Adolescent Health and Development, World Health Organisation; Budget, Planning & Review Branch, Victorian Department of Human Services; Pharmaceutical Evaluation Section, Commonwealth Department of Health & Ageing; Whitehorse/Manningham Division of General Practice; WA Health, State Health Research Advisory Council (SHRAC); RACV Road Safety Research Fund; Medical Services Advisory Committee, Commonwealth Department of Health and Ageing; Faculty of Business and Economics, Monash University; Australian Health Ministers’ Advisory Council.  
|                                          | **Current employment**  
|                                          | • Monash Business School, Monash University.  
|                                          | **Past employment**  
|                                          | • Health Economics & Social Policy Group at University of South Australia; Health Economics Unit at University of East Anglia; Centre for Clinical Effectiveness at Southern Health; Centre for Health Program Evaluation at Monash and Melbourne Universities; School of Population Health at University of Melbourne; Peter MacCallum Cancer Centre.  
|                                          | **Collaboration**  
|                                          | • Conducts collaborative research with Australasian Cochrane Centre; University of Lancaster; BC Cancer Agency; University of British Columbia; Institute for Breathing and Sleep; various Departments and Centres at Monash University.  
|                                          | **Memberships**  
|                                          | • Australian Health Economics Society; International Health Economics Association.  
|                                          | **Investments**  
|                                          | • Other than as part of managed superannuation funds and tradable index funds, has no investments or assets relevant to the work of this Steering Group Committee.  
|                                          | **Travel assistance, honoraria and sitting fees**  
|                                          | • HCC NHMRC; Australasian Sleep Trials Network; Royal Australian College of Public Health Physicians.  

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<tr>
<td><strong>Prof Chris Del Mar</strong></td>
<td>Employment: Bond University since 2004 in various roles, currently professor of public health.</td>
</tr>
<tr>
<td>• Steering Group member</td>
<td><strong>Board membership</strong></td>
</tr>
<tr>
<td>• HCC secondary contact</td>
<td>Board member of two companies to commercialise research at Bond University, part of my responsibilities as Pro-Vice Chancellor (Research), resigned in 2010</td>
</tr>
<tr>
<td></td>
<td>Central and Southern Queensland Training Consortium, resigned in 2004.</td>
</tr>
<tr>
<td><strong>Consultancy fees-honorarium</strong></td>
<td>Received as part of board membership (above)</td>
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<td></td>
<td>National Prescribing Services (NPS) consultations</td>
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<td></td>
<td>Royal Australian College of General Practitioner’s (RACGP) Red Book</td>
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<td>Therapeutic Guidelines (eTG) guidelines development</td>
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<td>Remote Primary Health Care Manuals Editorial Committee</td>
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<td></td>
<td>Royalties for three books (Wileys and BMJ Books) on EBM, and clinical thinking</td>
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<td></td>
<td>Editorial work (MJA Deputy Editor; ACP Journal Club; BMJ).</td>
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<tr>
<td><strong>Grants (non-commercial)</strong></td>
<td>NHMRC Centre of Research Excellence (CRE) (antibiotic resistance) for Cochrane Acute Respiratory Infections (ARI) Group</td>
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<td></td>
<td>National Heart Foundation (providing the evidence-based underlying BP guideline development)</td>
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<td>A grant from a private donor (for the Cochrane Collaboration ARI Group).</td>
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<tr>
<td><strong>Speeches – lectures</strong></td>
<td>As a member of the RACGP’s Preventive Guidelines (Red Book) Committee</td>
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<tr>
<td></td>
<td>About antibiotic resistance (both for the NPS and own research)</td>
</tr>
<tr>
<td></td>
<td>Other issues from time to time which may be relevant</td>
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<tr>
<td><strong>Activities</strong></td>
<td>Has prejudices about: screening (that we advocate too much in Australia); evidence-based medicine (not enough); health literacy (insufficient focus on empirical at the expense of patho-physiological).</td>
</tr>
<tr>
<td><strong>Support for travel or accommodation</strong></td>
<td>Provision of accommodation from a pharmaceutical company (Tolmar) manufacturing an oncology product for treating advanced prostate cancer, to attend a national conference on prostate cancer; the process for guidelines development about prostate cancer screening was presented on behalf of the RACGP.</td>
</tr>
</tbody>
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| **Prof Jon Emery**               | **Relationships**                                                                                      |
| • Steering Group member          | Director of Primary Care Collaborative Clinical Trials Group (PC4).                                    |
|                                  | **Grants**                                                                                            |
|                                  | Received NHMRC grant.                                                                                 |

| **Prof Richard Osborne**         | **Grants**                                                                                            |
| • Steering Group member         | Holds an NHMRC grant and may apply for NHMRC grants throughout the period of Steering Group membership. |
| • Author                        | The grants may involve elements of primary care.                                                      |
|                                  | No direct benefits to self or family.                                                                 |

<p>| <strong>Prof Jane Gunn</strong>              | <strong>Direct or indirect pecuniary</strong>                                                                        |
| • Steering Group member         | Chair, Northern Melbourne Medicare Local Ltd Board of Directors                                       |
| • Research Committee contact    | Member of the Transition Board of the Eastern Primary Health Network Ltd.                            |
|                                  | <strong>Other</strong>                                                                                            |
|                                  | Member, Primary Health Care Research Evaluation and Development (PHCRED) Strategy Advisory Committee (July 2013-December 2014) |
|                                  | Member, Royal Australian College of General Practitioners e-Mental Health Guide Working Group         |
|                                  | Member, Royal Australian College of General Practitioners HANDI Working Committee                     |</p>
<table>
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</table>
| **Prof Jane Gunn**<br> ...continued | • Member, Mind Research Reference Group  
• Member, beyondblue Victorian Centre of Excellence in Research and Evaluation in Depression. |
| **Prof Mark Harris**<br> • Steering Group Member  
• Prevention and Community Health Committee(PCHC) primary contact  
• Author | **Employment**<br> • Professor of General Practice, Scientia Professor, Executive Director Centre for Primary Health and Equity, University of NSW (UNSW).  
**Board membership**<br> • Member of the Board of Directors of Inner West Sydney Medicare Local.  
**Grants**<br> • Chief Investigator (CIA) on NHMRC Partnership Project with National Heart Foundation, Royal Australian College of General Practitioners, BUPA Foundation  
• NHMRC Senior Principle Research Fellowship on prevention and management of chronic disease in primary health care  
• Centre for Research Excellence (CRE) Obesity prevention and management in PHC (COMPaRE-PHC) - funded by Australian Primary Care Research Institute in collaboration with University of Technology Sydney, University of Sydney, University of Adelaide, University of Queensland and Deakin University  
• Investigator on CRE on Access to Primary Health Care for Vulnerable Population Groups. Grant funded by Australian Primary Care Research Institute and Canadian Institutes of Health.  
**Consultancy fees/honorarium**<br> • Consultant on BUPA self-management guides - Provide review of patient self-management guides prepared Healthwize for BUPA. Reimbursed for time. Funds paid to UNSW. |
| **Prof Mark Nelson**<br> • Steering Group member  
• Author | **Board membership and Consultancy fees/honorarium**<br> • No direct conflicts of interest related to absolute risk but in the last three years has developed and presented educational materials for MediMark, a private medical education company. Has also been a consultant for AMGEN regarding a lipid lowering agent.  
**Speeches/lectures and other**<br> • Member of committee (National Vascular Disease Prevention Alliance-NVDPA) that developed the absolute risk guidelines and has promoted them at scientific conferences and for the National Heart Foundation.  
**Activities**<br> • Member of various committees for the National Heart Foundation and the National Prescribing Service, both of which have an organisational interest in absolute risk and rational prescribing according to absolute risk. I disclose these arrangements as my reason for being approached to join the committee was to drive implementation of the NVDPA guidelines. |