Confronting cholesterol

Bringing it all together to solve Australia's ASCVD crisis

evohealth

February 2025

Evohealth acknowledges that we work on the traditional lands of many Aboriginal clans, tribes, and nations.

We commit to working in collaboration with Aboriginal and Torres Strait Islander communities and peoples to improve health, emotional and social well-being outcomes in the spirit of partnership.

About **Evohealth**

The delivery of healthcare is complex.
Our focus is not.

Better health for all.

CONFRONTING CHOLESTEROL

BRINGING IT ALL TOGETHER TO SOLVE AUSTRALIA'S ASCVD CRISIS

CONTENT.

ABOUT **THIS REPORT**

Background

Confronting cholesterol: Bringing it all together to solve Australia's ASCVD crisis is an evidence-based report focused on optimising lipid levels for people with atherosclerotic cardiovascular disease (ASCVD) in Australia. The report outlines five key recommendations to improve secondary prevention practices, with a particular emphasis on lipid management.

Approach

The report was independently prepared by Evohealth, a specialist health advisory firm, in partnership with an expert Advisory Committee and informed by interviews with stakeholders comprising of clinicians, research leaders, patient advocates and a comprehensive review of published and grey literature.

Amgen Australia provided funding for this report, but did not participate in its development to ensure Evohealth's independence.

ACKNOWLEDGEMENTS

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We thank the Advisory Committee, whose thoughtful and perceptive input was critical to this report. The committee comprised the following members:

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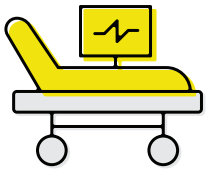
EXECUTIVE **SUMMARY**

A preventable crisis

Coronary heart disease, the most common form of cardiovascular disease (CVD) remains Australia's leading cause of death, a disappointing reality given our wealth of health resources and decades of policy aimed at prevention and management. [1] Atherosclerotic cardiovascular disease (ASCVD) is a major contributor to CVD burden and continues to drive significant disability and death despite well-established strategies and treatments. [2] The numbers are staggering; at least 1 in 20 Australians live with ASCVD. These people are at a high risk of a potentially fatal subsequent cardiovascular event, such as a heart attack or stroke. [2] This report examines what can be done to stop unnecessary ASCVD events, disability and death.

~1 in 6
deaths in Australia attributed to ASCVD in 2022. [2]



~271,000 hospitalisations
with ASCVD as principal diagnosis recorded in 2022. [2]

~439, 000
disability adjusted life years (DALYs), lost to ASCVD in 2023. [2]

One stroke or heart attack can be devastating, and yet we continue to see Australians returning to hospital, or worse still, losing their lives from subsequent cardiovascular events. This is despite the fact we have all the tools available to reduce this risk. It is unacceptable and must be addressed as a national priority.

We have all the pieces of the prevention puzzle

Elevated low-density-lipoprotein cholesterol (LDL-C) is a treatable risk factor for recurrent cardiovascular events such as heart attacks and strokes. Reducing LDL-C has been proven to significantly reduce risk and improve cardiovascular health outcomes. [3] While many effective and readily available treatments and interventions exist in Australia, elevated LDL-C levels prevail and Australians continue to experience recurrent cardiovascular events.

All Australians at risk of a subsequent event from ASCVD must know and address their LDL-C levels. Doing so relies on a regular 'test and treat' cycle in which at risk patients are assessed at least annually. If this testing reveals that target levels are not met, the patient's lipid lowering pharmacotherapy should be promptly adjusted. [4]

This is simple, inexpensive and remarkably effective. For each 1 mmol/L reduction in LDL-C there is a

21-25 per cent lower risk of a cardiovascular event. [3] The benefits are so significant that international experts advise that cholesterol should be lowered "as much as is tolerated, and as quickly as possible", to protect patients with ASCVD from another heart attack or stroke. [5]

The puzzle is still in pieces

Australia is well placed to support regular `test and treat` cycles. We have subsidised diagnostics and medicines, evidenced-based patient support programs, skilled and accessible healthcare professionals, and a supportive health policy framework (Figure 1). [6-12] Lipid lowering medications such as statins and more advanced therapies, are cost-effective, affordable and readily available on the Pharmaceutical Benefits Scheme (PBS).

However, despite having all of these pieces of the puzzle in place, around 40 per cent of high-risk patients are not reaching LDL-C targets. [13]

~40 per cent of high-risk patients do not meet LDL-C targets. [13]

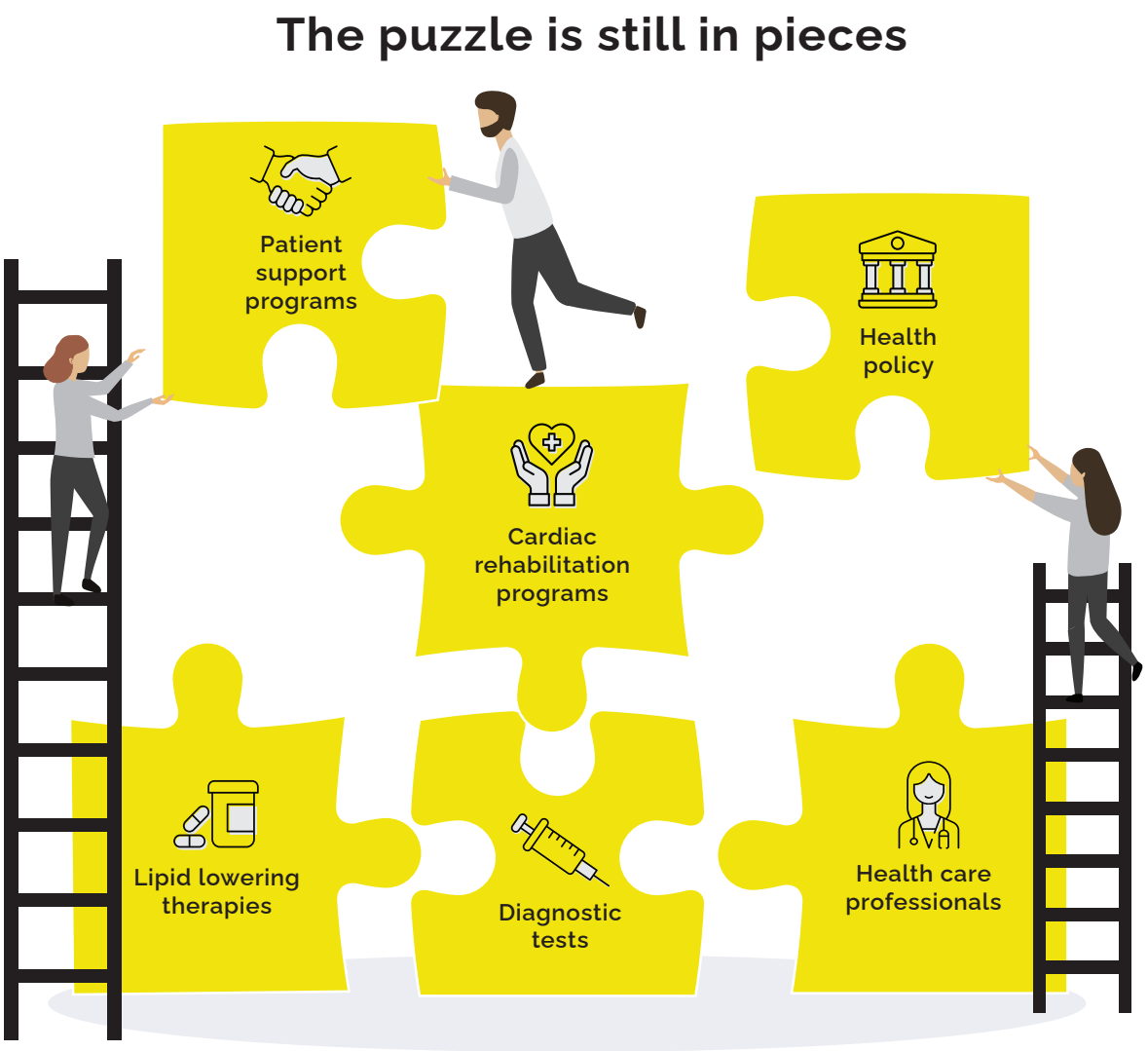


Figure 1 – Pieces of the 'test and treat' puzzle

Source: Evohealth

Breaking down the barriers

This undesirable and dangerous situation stems from an interaction of several factors. First, patients and their treating teams often do not understand the importance of LDL-C levels. Second, coordination across the health care system is difficult, and third, policy formulation and implementation has been slow. These combine to make an inherently treatable disease much more difficult to manage than it should be (see figure 2).

1. Patients and their treating team:

Many patients do not know their LDL-C levels nor their ideal target. Patchy adherence to lipid-lowering therapy may also occur due to concerns about potential side effects. [14, 15] One in four people stop first-line lipid-lowering treatments within six months, and almost half discontinue within five years. [14] This is exacerbated in priority patient groups including First Nations Peoples, people from culturally and linguistically diverse (CALD) backgrounds, and those living with complex comorbidities, disabilities, or challenging socioeconomic backgrounds.

In general practice, eight out of ten patients present with two or more chronic conditions needing management. [16, 17] For General Practitioners (GPs), ASCVD often takes a back seat to these conditions or more immediate health issues, particularly as the average GP consultation time in Australia is just 18.7 minutes. [16]

Transitions from hospital to primary care are also not managed well. Only one in four patients receive optimal care, with appropriate medication, referral to cardiac rehabilitation, and lifestyle advice when discharged from hospital after their first event. [18] This is compounded by a lack of coordination between cardiologists and GPs which creates further gaps in continuity and follow-up care.

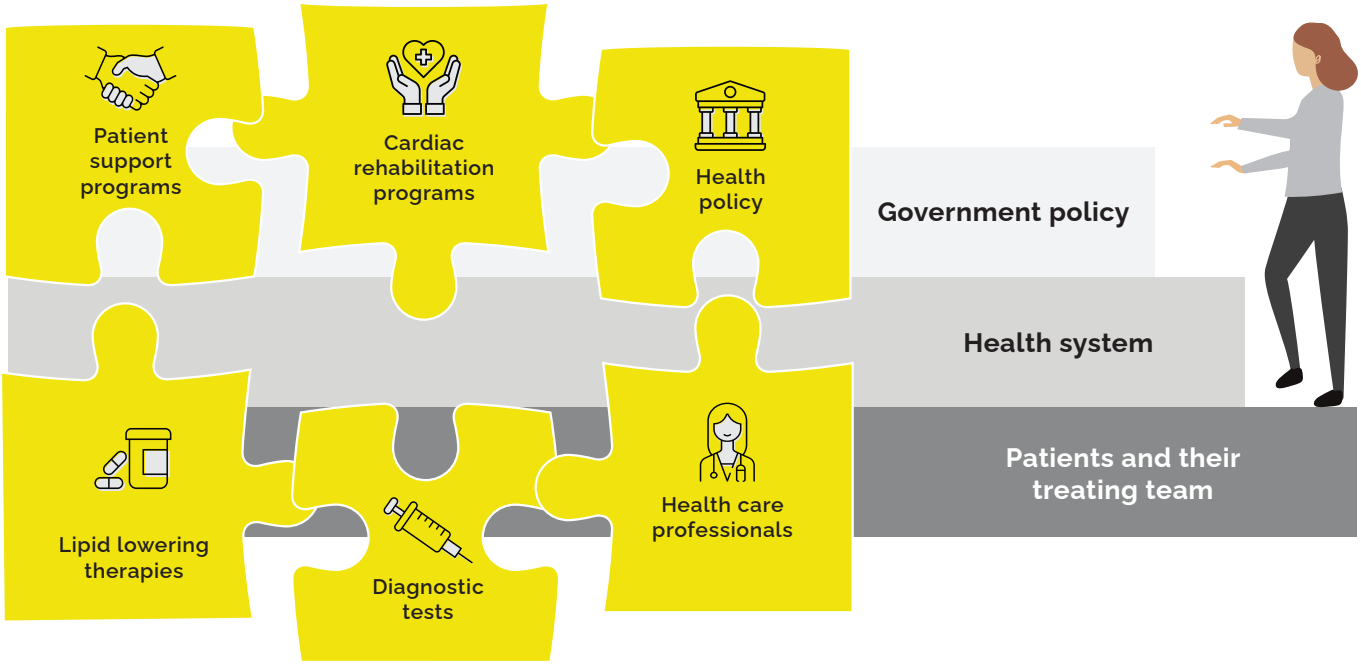
2. Health system:

Our health system does not optimise, coordinate and integrate ASCVD care, nor does it have a strong focus on long term patient outcomes. The 'siloed' approach does not make best use of our healthcare workforce and the potential of best practice multidisciplinary team (MDT) care. Additionally, only 31.9 per cent of patients are referred to a cardiac rehabilitation program after an initial event, [19-24] an issue exacerbated by a lack of cohesive national guidelines for ASCVD patient management. Together these factors undermine lipid management and thwart best practice 'test and treat' approaches at each turn.

3. Government policy:

Implementation of relevant key government reforms has been slow, constrained systemic challenges, resulting in limited or no progress. [9-12] For example, two recent government reviews, the *National Health Reform Agreement - Mid Term Review (2023)*, and the *Medicare Taskforce Report (2023)*, both outlined recommendations for reform to address many of the challenges faced by Australians living with ASCVD. [9, 10] This includes enhanced support for MDT care, new funding models, and better transition of care practices. Delivering these policy reforms will support prevention of subsequent cardiovascular events, unnecessary hospitalisations and potential deaths.

Key challenges



Patients and their treating team

- Low health and medication literacy
- Patients lack confidence to manage condition
- GPs struggle to identify at-risk patients and apply 'test and treat' strategies
- GPs lack resources—time, funding, allied health support, and clinical tools
- GPs juggle multiple conditions
- Cardiologists often discharge patients without a clear lipid management plan
- Poor coordination between cardiologists and GPs due to fragmented care, limited communication, and unclear responsibilities

Health system

- Poor care transitions without clear management plans
- Eligible patients are not referred and enrolled in cardiac rehabilitation
- Limited patient support programs for lifelong management.
- Insufficient allied health funding to support chronic disease care
- Chronic disease plans allow few allied health visits
- Workforce Incentives Program inadequate to fund a full multidisciplinary team
- GPs lack time and funding for chronic disease management
- MBS funding is restricted by time and condition limits
- Secondary prevention is missing from general practice Quality Improvement incentives program
- No clear, accessible national clinical guidelines for lipid management

Government policy

Implementation of relevant recommendations in key government reforms is slow or has not yet progressed including:

- Mid Term Review of the *National Health Reform Agreement (NHRA) Final Report 2023*
- *Strengthening Medicare Taskforce Report 2022*

Figure 2 – Challenges at the individual, system and policy level preventing pieces of the 'test and treat' puzzle from coming together to optimise lipid management in ASCVD

Source: Evohealth

Bringing it all together

Australia has all the pieces of the puzzle to reduce ASCVD events and save lives, but these pieces need to be connected to form a cohesive model of care (MoC).

Addressing the challenges above will improve secondary prevention of cardiovascular events and will help tackle Australia's cholesterol crisis. **Five recommendations** have been developed to address these challenges and these are displayed in figure 3.

Urgent action is needed. We are losing too many Australians to preventable strokes and heart attacks. [25-30]

RECOMMENDATION 1

Develop, implement and assess a collaborative evidenced-based MoC for ASCVD secondary prevention across multiple defined local health districts and primary health networks.

RECOMMENDATION 2

When finalised, integrate the new acute coronary syndrome (ACS) and lipid management guidelines into clinical practice, including prescribing software, laboratory lipid panel reports and relevant patient information materials.

RECOMMENDATION 3

Standardise comprehensive cardiac rehabilitation and ensure every patient with ASCVD is enrolled in a modality of their choice.

RECOMMENDATION 4

Expand the Practice Incentives Program Quality Improvement (PIP-QI) data measures to include patients with ASCVD, current LDL-C lipid result and treatment plan.

RECOMMENDATION 5

Create a targeted health promotion campaign for high-risk patients informing them how they can reduce their risk of a subsequent event.

Figure 3 – Bringing the pieces of the ASCVD prevention puzzle together with 5 actionable recommendations for the Australian health system

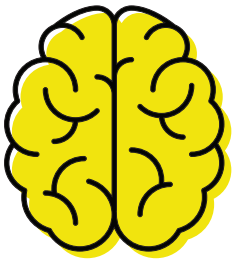
Source: Evohealth

Australia has the resources, evidence, and strategies needed to combat ASCVD effectively – now is the time to bring these pieces together and save lives.

WHAT IS ASCVD?

ASCVD occurs when fatty deposits called plaque buildup in the arteries. [31]

ASCVD causes strokes, ACS (e.g., heart attacks and angina), peripheral artery disease and aortic aneurysms. [31]



STROKE

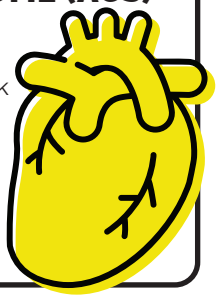
~45,785 people in Australia experienced a stroke in 2023. [27]

>80% of strokes can be prevented. [26]

ACUTE CORONARY SYNDROME (ACS)

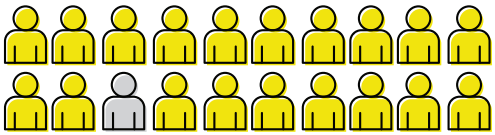
> 65,000 Australians experience an ACS event (heart attack or unstable angina) each year. [28]

One third of ACS events are preventable and occur in people who have prior heart disease. [30]



BURDEN OF ASCVD[1]

In 2022

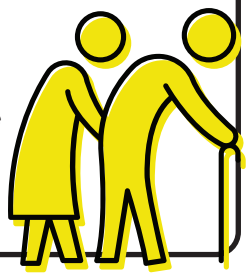


~1 in 20 Australians living with ASCVD. [2]

~1 in 6 deaths in Australia attributed to ASCVD. [2]

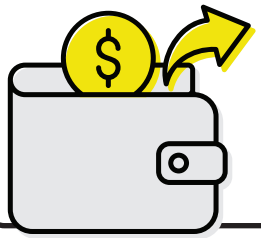
~271,000 hospitalisations attributed to ASCVD. [2]

~439,000 disability-adjusted life years (DALYs), the combined years of healthy life lost due to premature death and living with disability were lost to ASCVD in 2023. [2]



COSTS TO THE ECONOMY

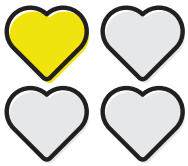
~$103.1 billion is lost each year due to ASCVD, driven largely by the economic value assigned to years of life lost to premature mortality and the diminished quality of life resulting from long-term disability.[2] [34, 35]



~$4.1 billion was spent on direct health costs of ASCVD in FY21. [2]

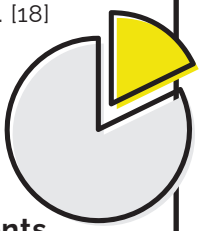
PREVENTING SUBSEQUENT EVENTS

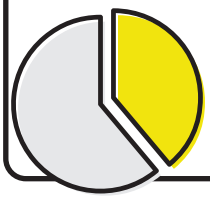
Australian studies have found:



Only 1 in 4 patients with ACS receive optimal care (medicines, referral to cardiac rehabilitation and lifestyle advice) at hospital discharge. [18]

18% of these patients admitted to hospital with ACS died within 3 years of discharge. [25]



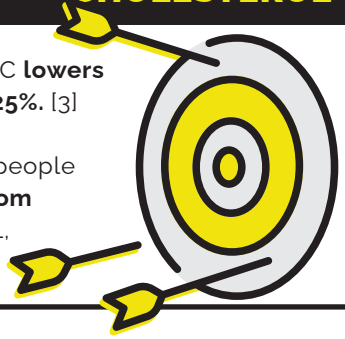


39% of these patients experienced another CVD hospitalisation within 3 years. [25]

CHOLESTEROL CRISIS

Every 1 mmol/L reduction in LDL-C **lowers cardiovascular event risk by 21–25%.** [3]

The LDL-C target in Australia for people with ASCVD is a **50% reduction from baseline**, or target of <1.4 mmol/L, whichever is lower [32]



~40% of high-risk patients on lipid-lowering therapy had an LDL-C result that did not meet the previously recommended LDL-C target of <1.8 mmol/L. [13]

45% of patients on lipid lowering therapies did not achieve target lipid levels within 12 months of an admission to hospital with ACS. [33]

1 ASCVD was mapped by aggregating data for coronary heart disease (CHD), peripheral artery disease, and stroke from AIHW sources. This method provides an approximation, as only ischemic strokes, those caused by arterial blockages, are directly attributable to ASCVD, while other types of strokes, such as haemorrhagic strokes, arise from non-ASCVD-related factors.

2 The economic value assigned to years of life lost due to premature mortality and the diminished quality of life resulting from long-term disability was determined by calculating DALY (Disability-Adjusted Life Year) as the sum of Years of Life Lost (YLL) and Years Lived with Disability (YLD), and then multiplying by the Value of a Life Year Saved (VLSY), set at AUD $235,000.

STILL AUSTRALIA'S **BIGGEST KILLER**

Coronary heart disease, the most common form of cardiovascular disease (CVD) persists as Australia's leading cause of death. [1] This is a troubling reality given the ample resources we have available to prevent and manage it.

CVD is **still** Australia's leading **cause of death**. [1]

Collectively, CVD includes a range of diseases affecting the heart and blood vessels, such as coronary artery disease, cerebrovascular disease, peripheral artery disease, atrial fibrillation and aortic atherosclerosis, all of which can lead to serious events like heart attacks, strokes, and heart failure [36]

In 2023, CVD accounted for almost 12 per cent of the total burden of disease in Australia, ranking fourth as a disease group behind cancer, mental health, substance use disorders, and musculoskeletal conditions. [37]

Coronary heart disease was **12 per cent** of the total burden of disease in Australia in 2023. [36]

Among First Nations peoples, CVD accounts for a quarter of all deaths and is the largest contributor to preventable morbidity and mortality. Emerging evidence also shows that CVD related mortality occurs 10-20 years earlier than in non-Indigenous Australians. [38]

ASCVD is two-thirds of total CVD burden

Around 66 per cent of the total burden of CVD is attributed to ASCVD, encompassing diseases resulting from plaque build-up in arterial walls such as peripheral vascular disease, coronary artery disease and peripheral artery disease. [37] Atherosclerosis is the underlying process of ASCVD, where plaque buildup in the arteries leads to narrowed blood vessels, and in some cases blockages, that restrict or stop blood supply to the brain (causing stroke) or heart (causing angina or heart attack) (see figure 4). [37] Despite the preventable nature of ASCVD, the condition continues to impose a significant toll on many Australians, our health system and broader economy. [37]

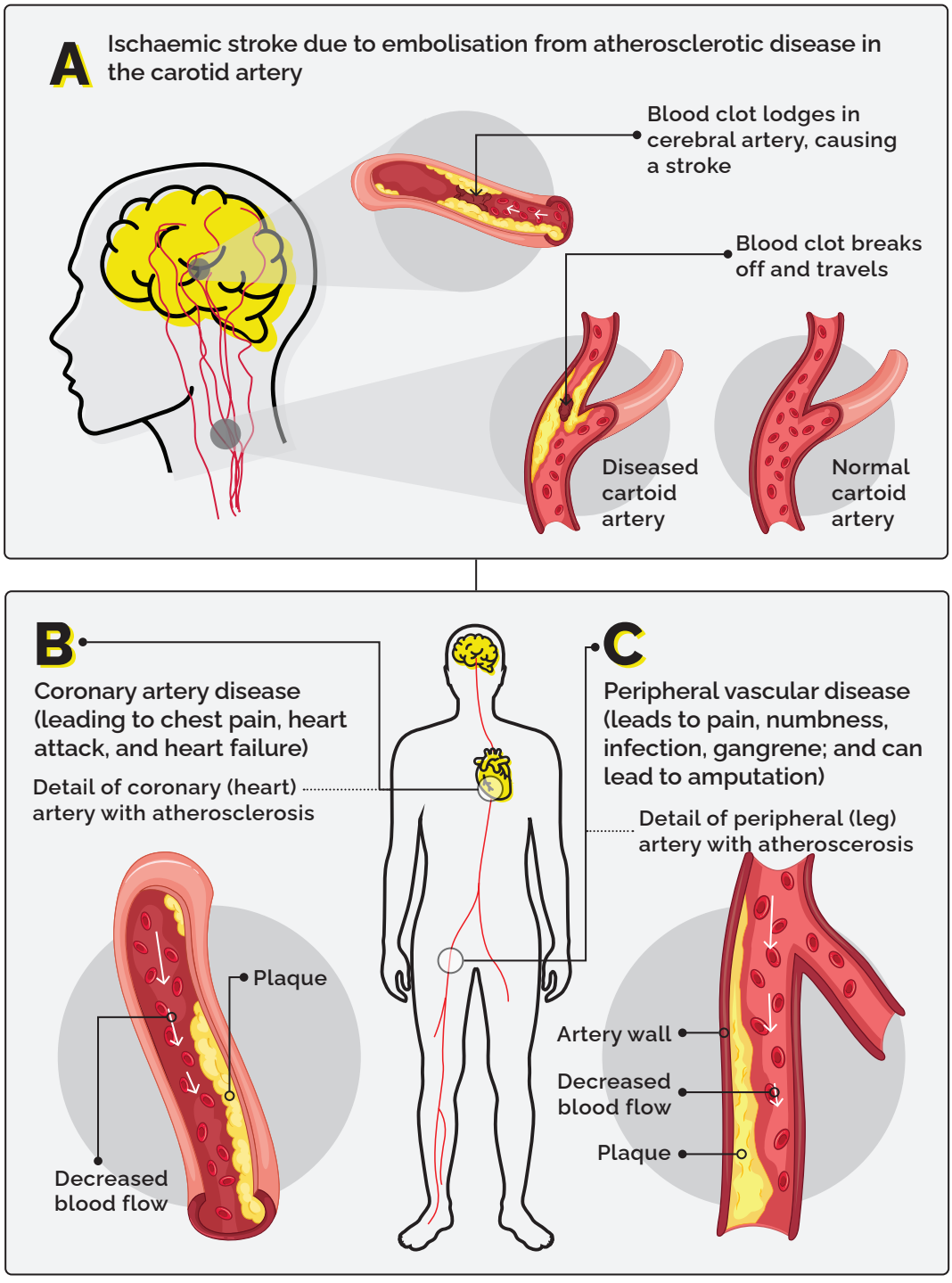


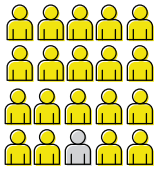
Figure 4 - Process of atherosclerosis and subsequent disease states

Source: Adapted from 'Code Red: Overturning Australia's cholesterol complacency Report [13]

ASCVD costing lives and money

Around one in twenty Australians live with ASCVD, and sadly, one in every six will lose their lives as a direct result of this preventable condition. [2] In 2023, ASCVD accounted for 439,000 Disability-Adjusted Life Years (DALYs) lost, underscoring the toll of premature deaths and years spent with disability, which could often be avoided with effective intervention. [2] The pervasiveness of the disease meant that in 2022 there were 271,000 hospital admissions where ASCVD was recorded as the primary diagnosis. [2]

Beyond its devastating health impacts, ASCVD also imposes a significant economic burden, with approximately $4.1 billion in direct healthcare costs reported in 2021. [2] This preventable crisis demands urgent action to strengthen prevention and management efforts across the health system.



~1 in 20
Australians live with ASCVD [2]

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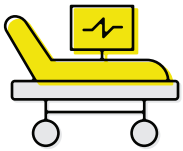
~439,000
DALYs lost to ASCVD in 2023 [2]



~271,000
ASCVD hospital admissions in recorded in 2022 [2]

With such a significant burden, Australia has already expended considerable effort. Primary prevention has received significant attention, with a focus on preventing a patient's first cardiovascular event through lifestyle interventions and medications. While this approach has yielded positive results, it neglects a growing subset of high-risk individuals. These are Australians who have already experienced an ASCVD event, are at a heightened risk of recurrence, and whose lives could be significantly improved by secondary prevention measures.

With lives and billions of dollars at stake, Australia's preventable ASCVD burden needs urgent, targeted action, especially for those at risk of another heart attack or stroke.

THE SECOND ACT **NO ONE WANTS**

The problem of subsequent events

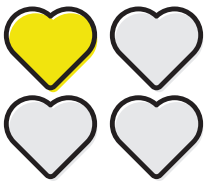
Despite the availability of effective management options, many Australians with ASCVD are not achieving recommended treatment targets, highlighting a significant gap in care and an urgent need for improved prevention and management strategies. In 2023 alone, there were 57,300 acute coronary events and 45,785 new strokes. [27, 37]

For those who survive an initial heart attack or stroke, there is a high risk of a subsequent and potentially more severe event. [39] Pre-existing coronary artery disease, which is often caused by ASCVD, raises the risk of a future heart attack by five to seven times. [40]

Acute coronary syndrome (ACS) is one of range of conditions caused by ASCVD. The challenges in managing ACS, which typically presents as a heart attack or angina, clearly exposes significant gaps in optimisation of ASCVD care and prevention. Australian studies have found that only one in four patients with ACS receive optimal care, including medication, referral to cardiac rehabilitation, and lifestyle advice when discharged from hospital after their first event. [18]

Within three years of discharge, one in five of these patients will die and 39 per cent will experience another CVD-related hospitalisation. [25] These figures expose the profound vulnerability of high-risk ASCVD patients and reveal an urgent need for consistent, comprehensive follow-up care. Care that our health system is outwardly well-equipped to provide yet often fails to do so.

Australian studies have found for patients with ACS:



Only **1 in 4** receive optimal care (medicines, referral to cardiac rehabilitation and lifestyle advice) at hospital discharge. [18]

18 per cent admitted to hospital with ACS died within 3 years of discharge. [25]

39 per cent experienced another CVD hospitalisation within 3 years. [25]

It is particularly disheartening that around one in three of ACS events in Australia are preventable, having occurred in people with prior coronary heart disease. [30] Similarly, over 80 per cent of strokes are considered preventable with adequate risk factor management. [26] This represents thousands of Australians and their families affected by a preventable health crisis.

Around **1 in 3** ACS events are **preventable** and occur in people who have prior coronary heart disease. [30]

More than 80 per cent of strokes can be prevented. [26]

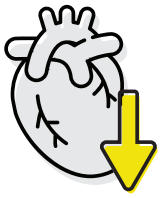
To reduce risk, management strategies typically focus on lifestyle changes and pharmacotherapy. These strategies target modifiable risk factors like elevated cholesterol, high blood pressure, obesity, smoking, alcohol use, poor diet, diabetes, and low physical activity levels. [39, 41-43]

Thousands of Australians continue to endure repeat heart attacks and strokes—tragic outcomes that are largely preventable.

While managing all risk factors is essential to prevent subsequent ASCVD events, this report focuses on cholesterol management. Well-established evidence linking low-density lipoprotein cholesterol (LDL-C) reduction to significant decreases in cardiovascular events exists, as do effective and accessible therapies that target cholesterol levels. Utilising this evidence and these treatments presents an opportunity to deliver immediate and measurable benefits for both patients and the health care system.

Falling short of lipid targets

Lipid or cholesterol management plays a central role in reducing risk of subsequent events in Australians with ASCVD. Patients who fail to achieve LDL-C target levels face increased risks of disease progression and poor health outcomes. [44]



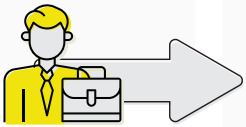
Every **1 mmol/L reduction in LDL-C** lowers cardiovascular event risk by **21–25 per cent**. [3]

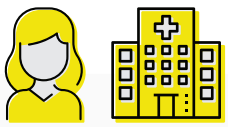
Clinical guidelines typically recommend patients reduce dietary cholesterol intake, however this only produces a 10–15 per cent reduction in LDL-C. [39] Targeted pharmacotherapy is usually required, and recommended, alongside these lifestyle changes to achieve optimal reduction. [39] Research indicates that for every 1.0 mmol/L reduction in LDL-C, the risk of major cardiovascular events reduces by 21–25 per cent for individuals with pre-existing vascular disease. [3, 45]

Statins are standard first line treatment for LDL-C management and highly effective in lowering cholesterol levels and reducing the risk of major cardiovascular events for many patients. [39, 41-43] When statins alone are insufficient to achieve target LDL-C targets, additional lipid-lowering therapies, such as ezetimibe or proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors, may be prescribed – this is known as treatment optimisation or escalation. Management of care falls to the patient's treating team, their GP and/or cardiologist, with a typical patient pathway depicted in figure 5. [5, 39]

Initial cardiovascular event (e.g. heart attack or stroke)

- Hospital admission for an ASCVD event (e.g., heart attack or stroke).





Hospital discharge

- Hospital clinicians or cardiologist provide discharge plan.
- Prescription of lipid lowering medicines (e.g. high dose statin +/- ezetimibe) and other treatments to manage risk factors.
- Discharge summary includes LDL-C levels, lipid lowering medications prescribed, and ongoing management plan.
- Referral to cardiac rehabilitation programs and primary care for ongoing management.

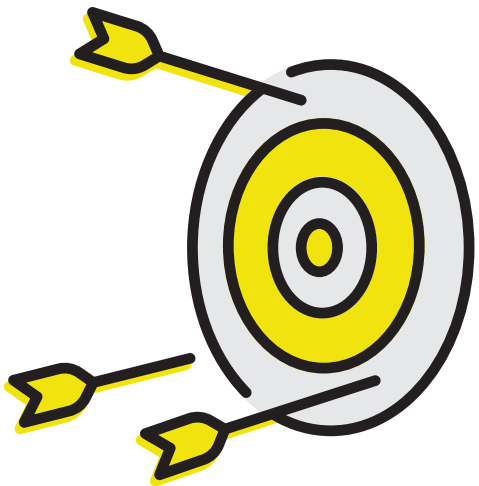
Ongoing management

- Patient enters ongoing care with their GP.
- Management of modifiable risk factors (e.g., LDL-C, blood pressure, blood glucose, smoking).
- Monitoring of LDL-C levels.
- Optimisation of lipid lowering therapy if not at target, including escalation of therapy (increasing dosage or addition of other lipid lowering medicine until target LDL-C reached). This may mean increasing statin dose and/ or addition of ezetimibe and/or addition of PSK9i over time.
- Support for treatment adherence.
- Referral to cardiologist if LDL-C remains above target after multiple interventions or in cases of complex management.
- Co-ordination of other allied health professionals to support patient care (e.g. dietician).

Figure 5 – Patient ASCVD secondary prevention lipid management pathway

Source: Evohealth

Despite easy access to suitable medications, previous research found only 40 per cent of Australians with ASCVD met the optimal LDL-C level of 1.8 mmol/L. [13, 39] This is likely due to failing to follow regular testing and treatment guidance. Australia's *Therapeutic Guidelines* recommend that to minimise risk of subsequent events for those with ASCVD, patients should aim for a 50 per cent reduction from baseline LDL-C, or a target of below 1.4 mmol/L, whichever one is lower. [39]



Australia's **new LDL-C target** for those with ASCVD is **<1.4mmol/L.** [38]

Only 40 per cent of Australians with ASCVD met the previous target of 1.8 mmol/L LDL-C. [13]

45 per cent of patients on lipid lowering therapies did not achieve target lipid levels within 12 months of an admission to hospital with ACS, including 75 per cent who had been prescribed intensive lipid-lowering therapy at discharge. [32]

The International Lipid Expert Panel position paper recommends that lower is better - ***"pathways are based upon the principles of LDL-C reduction: the earlier the better, the lower the better, the longer the better."*** **[5]**

In 2020, Evohealth modelled 20,704 fewer CVD deaths and 64,411 non-fatal CVD events avoided over a lifetime when patients are treated to target. [4] The target in 2020, was <1.8 mmol/L. Given Australia's LDL-C target is now 1.4 mmol/L, it is likely that the number of people considered at risk of a subsequent cardiovascular event is even higher than previously calculated, further highlighting the urgent need for improved management practices.

Despite the importance of LDL-C control in ASCVD, most Australians are not reaching target levels—underscoring a critical need for better management.

WE HAVE ALL THE **PIECES OF THE PREVENTION PUZZLE**

Australia's health system is equipped with all the necessary resources to avert subsequent ASCVD events by engaging in a 'test and treat' cycle of care. These resources include access to effective and affordable tests and treatments, comprehensive patient support programs and resources, and accessible primary, secondary and tertiary health care systems and health professionals.

'Test and treat'

In our previous report, *Australia's Cholesterol Heartache: A simple roadmap for urgent action on cholesterol management*, we described a simple approach to lipid management, that if widely implemented could substantially reduce the burden of ASCVD on individuals and society – test and treat. [4] This care cycle continues to hold true, and is now updated with Australia's new target of < 1.4mmol/L.

This care cycle includes two simple elements;

1 Test

regularly testing LDL-C levels, annually at minimum, in at risk patients and,

2 Treat

prompt use of lipid lowering pharmacotherapy to meet recommended LDL-C targets for effective ASCVD prevention (see figure 6). [4]

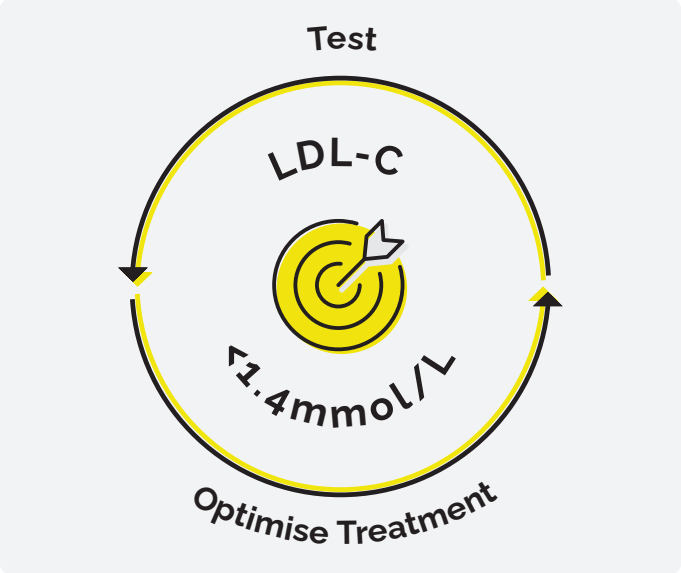


Figure 6 – 'Test and treat' cycle for optimising lipid management

Source: Adapted from Australia's cholesterol heartache [5]

Test and treat - in practice

If after initial testing, treatment adjustments are needed to meet LDL-C targets, patients cholesterol levels are to be re-tested after six weeks. [39] Continual adjustments and re-testing should continue as needed until LDL-C levels fall below target, at which point testing is recommended annually. [39] Effective implementation of `test and treat` relies on coordinated access to medicines, testing, patient support and health professionals, within an integrated health system supported by appropriate health policy. These elements exist at present, but are not connected (see figure 1).

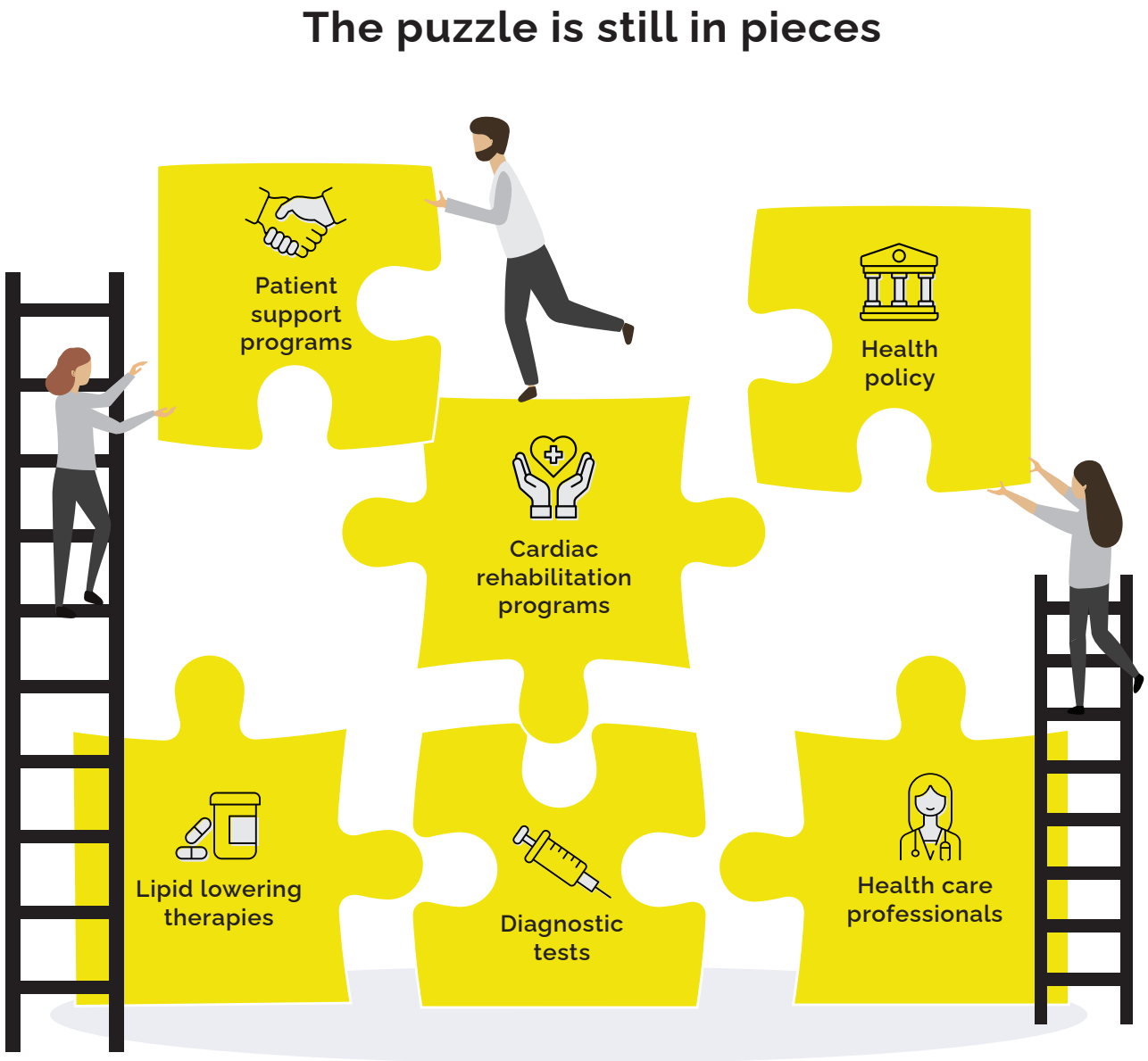


Figure 1 – Pieces of the 'test and treat' puzzle

Source: Evohealth

Existing pieces of the 'test and treat' puzzle

- **Routine diagnostic tests** for lipid levels funded through the Medicare Benefits Schedule (MBS) and available at no charge to patients when requested by their GP or cardiologist. [6]
- **Effective lipid lowering therapies** are subsidised via the Pharmaceutical Benefits Scheme (PBS), making them affordable for patients requiring pharmacotherapy to meet lipid treatment targets. [7]
- **Cardiac rehabilitation programs** are an important part of care following a cardiovascular event. Evidence clearly demonstrates those who participate in such programs have better health outcomes and decreased risks of subsequent events. [46]
- **Patient support programs**, including those offered by The Heart Foundation, are available to all CVD patients. They provide tailored information, expert advice and an opportunity to meet people who are living through a similar experience. [46, 47]
- **Health care professionals**, access to GPs to manage and coordinate care funded via the MBS, and from allied health professionals, cardiologists and other health services as needed. [8]
- **Health policy** including supporting judicious use of medicines, preventative healthcare, improved transitions of care and reform designed to encourage health professionals to work in multidisciplinary teams (MDTs). [9-12]

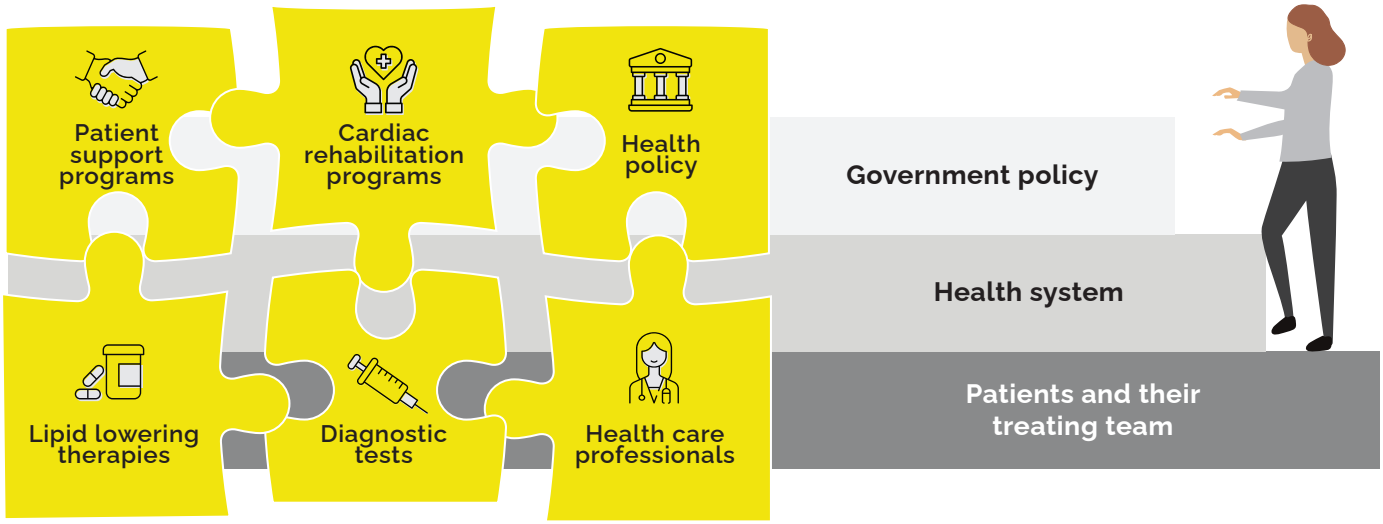
Despite the availability of these resources, patients and their treating team are not consistently engaged in active 'test and treat' cycles. For many, inequitable and inconsistent access to these resources affects their treatment, highlighting the need for a coordinated national approach to consistently address the needs of all patients across the country.

THE PIECES ARE **NOT CONNECTED**

> *"...with the [lipid lowering] options we have available, we should render lipid disorders a rare disease."*
>
> **– Banach et al. [5]**

Healthcare can be complex, with competing individual and system factors that have made optimisation of `test and treat` cycles difficult, despite access to all the necessary resources. Considering these challenges from an individual (e.g. patient and clinician), health system and policy perspective will ensure that all aspects of care are aligned, enabling consistent, effective lipid management and reducing risk of recurrent cardiovascular events for patients with ASCVD (see figure 2).

Key challenges



Individual challenges

- Low health and medication literacy
- Patients lack confidence to manage condition
- GPs struggle to identify at-risk patients and apply 'test and treat' strategies
- GPs lack resources—time, funding, allied health support, and clinical tools
- GPs juggle multiple conditions
- Cardiologists often discharge patients without a clear lipid management plan
- Poor coordination between cardiologists and GPs due to fragmented care, limited communication, and unclear responsibilities

Health system challenges

- Poor care transitions without clear management plans.
- Eligible patients are not referred and enrolled in cardiac rehabilitation.
- Limited patient support programs for lifelong management.
- Insufficient allied health funding to support chronic disease care
- Chronic disease plans allow few allied health visits
- Workforce Incentives Program inadequate to fund a full multidisciplinary team
- GPs lack time and funding for chronic disease management
- MBS funding is restricted by time and condition limits
- Secondary prevention is missing from general practice Quality Improvement incentives program
- No clear, accessible national clinical guidelines for lipid management

Government policy

Implementation of relevant recommendations in key government reforms is slow or has not yet progressed including:

- Mid Term Review of the *National Health Reform Agreement (NHRA) Final Report 2023*
- *Strengthening Medicare Taskforce Report 2022*

Figure 2 – Challenges at the individual, system and policy level preventing pieces of the Test and Treat puzzle from coming together to optimise lipid management in ASCVD

Source: Evohealth

To understand why so many Australians are not meeting lipid targets and are at risk of subsequent heart attack and stroke, it is necessary to consider what barriers exist for individuals within the health system, including for patients, and their treating team of General practitioners (GPs), cardiologists and other healthcare professionals.

Human behaviour is shaped by an individual's capability (skills and knowledge), opportunity (environment and resources), and their motivation. [48]

In relation to 'test and treat' for ongoing lipid management, the interaction between a patient's own behaviour and their engagement with the resources provided in the health system to manage lipids becomes clearer.

Though many people may support a patient, the focus of this report is on three key individuals; the patient, the GP (or primary care provider) and cardiologist (see figure 7).

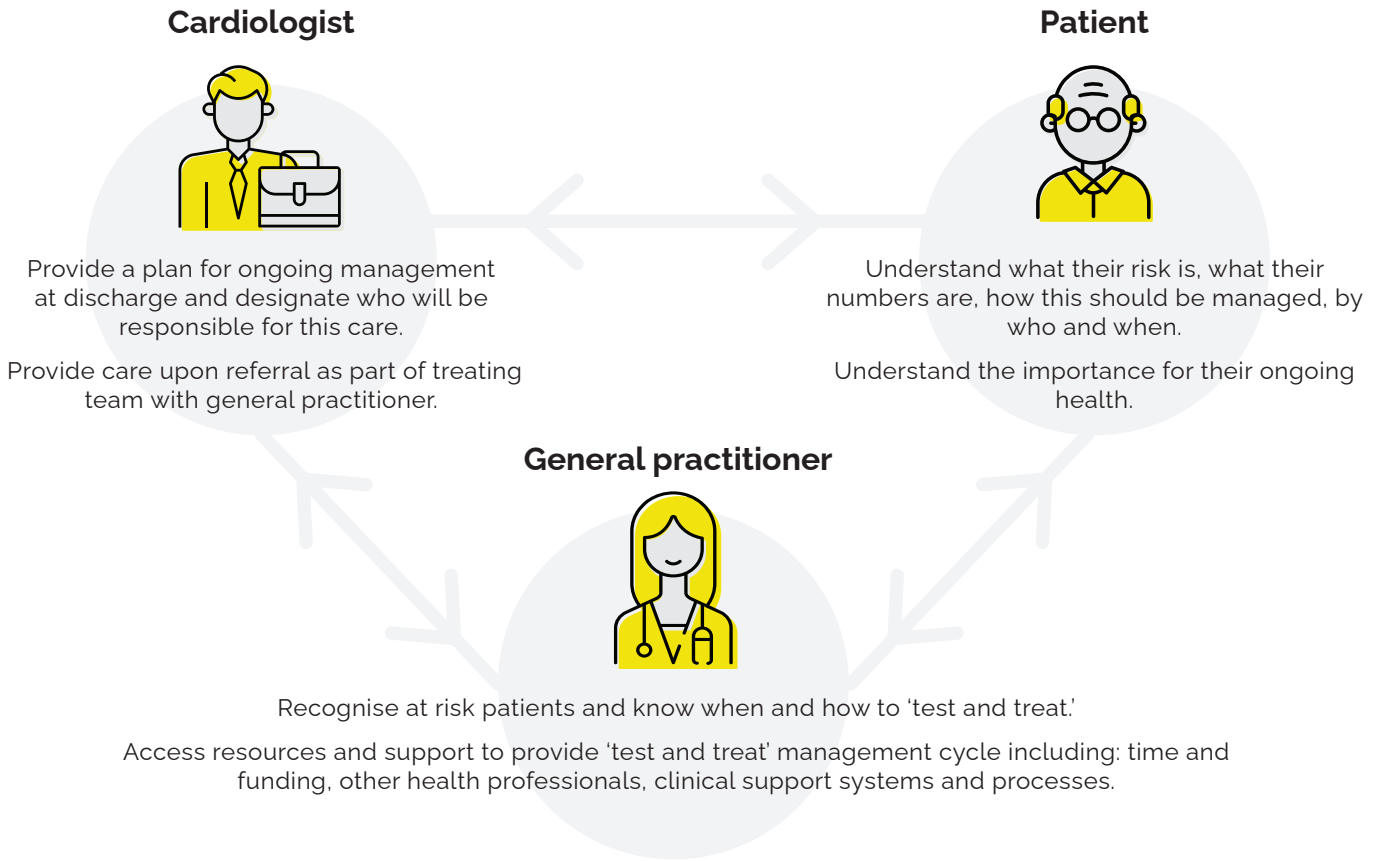


Figure 7 – What the cardiologist, GP and patient need to effectively engage in 'test and treat' for ongoing lipid management

Source: Evohealth

1. Patient

> *Patients need to know their [LDL-C] numbers. If they start asking for it, then GPs will prioritise and respond to this. We need to help patients understand.*
>
> **– General practitioner**

It is vital that patients are empowered with a clear understanding of their cholesterol levels, the importance of ongoing lipid management and stay committed to therapies that reduce their risk of future cardiovascular events. Regrettably, too few patients are so equipped, particularly in priority populations. Insufficient awareness significantly undermines effective secondary prevention, and patients who do not fully understand their risk are less likely to adhere to prescribed therapies or attend follow-up appointments.

This knowledge gap is clearly demonstrated in studies reporting poor adherence to statin therapies, with around half of Australians prescribed statins discontinuing treatment within five years, and one in four non-adherent within just six months. [14] This is caused by several factors. First, patients are often concerned about, or experience, side effects, such as muscle pain. Second, the importance of maintaining LDL-C targets is not well understood, and, third, there is a common misconception that once cholesterol levels improve, medication is no longer needed. [15]

2. General practitioner

> *We are so time pressured. We are not just dealing with their CVD risk; we're dealing with their depression and something else they've come in for... in 15 minutes, it's virtually impossible to address everything.*
>
> **– General practitioner**

Every day in Australia, GPs balance competing health priorities in short consultations. With an average consultation time of just 18.7 minutes, GPs are juggling a rising tide of complex patient needs. They consistently cite mental health as one of the top three reasons for patient visits, with consultations leaving little time for less acute concerns, like ASCVD. [16] This is problematic, as the *2022 National Health Survey* data revealed that 85 per cent of individuals living with heart, stroke or vascular disease have two or more chronic conditions, and 57 per cent have three or more. [17] When Australian GPs were asked which specific conditions they were most concerned about regarding the future health of their patients, the most frequently identified were mental health conditions (36 per cent), followed by chronic illnesses and multimorbidity (18 per cent), and lifestyle-related issues (17 per cent). [16] Despite being a leading cause of death, very few (3 per cent) identified cardiovascular disease as an area of future concern.

Furthermore, the high workload of many GPs and the fragmented nature of the health care system often leads to duplication of care, or patients "falling through the cracks." [16]

Under this strained system, GPs are left to manage long-term ASCVD prevention within brief, often underfunded appointments, that lack coordination between other providers and services such as allied health necessary to optimise secondary prevention.

> *Once diagnosed with ASCVD, patients need to manage it for the rest of their lives, they need to have easy access to patient support programs and information outside of hospitals and GP clinics.*
>
> **– Natalie Raffoul, Clinical Cardiology Pharmacist and Senior Manager, Healthcare Programs and Clinical Strategy at Heart Foundation**

3. Cardiologist

> *"Move away from the siloed medicine approach. Cardiologists do their bit, we do our bit. It's got to be integrated.*
>
> **– General practitioner**

Care does not end at discharge, or after the first ASCVD event, rather, it should transition seamlessly from hospital to community care. Unfortunately, discharge plans frequently lack clarity on who is responsible for ongoing lipid management. These plans are often prepared by junior medical staff, who do not have sufficient time and experience consistently leaving patients vulnerable to lapses in care at these critical transition points.

> *They often come out of hospital without a clear plan...*
>
> **– General practitioner**

Previous Australian studies note only one in four patients with ACS receive optimal care (medicines, referral to cardiac rehabilitation and lifestyle advice) upon hospital discharge. [18] A clear, actionable management plan designating responsibility for follow-up care, and approved by the cardiologist upon discharge is critical to improving outcomes and ensuring accountability across the care continuum.

Collaboration between cardiologists and primary care providers is critical for achieving lipid targets and supporting patients as they transition back to the community after discharge. However, barriers restrict coordination, including fragmented care pathways, limited formal communication between specialists and GPs, and unclear accountability for ongoing lipid management—such as when and how care should be escalated to a cardiologist. Cardiologists typically focus on acute interventions and often lack the capacity for long-term follow-up care, which is traditionally managed by primary care providers. This division of responsibilities, combined with high patient volumes and time constraints, creates gaps in follow-up and risk factor management, ultimately compromising patient outcomes.

These problems are exacerbated by broader system-level issues that limit access to comprehensive national guidance, coordination among providers, and resources, creating a cycle of under-treatment that must be addressed at several levels.

THE HEALTH SYSTEM IS **NOT EFFECTIVELY CONNECTING THE PIECES**

The pieces of the ASCVD management puzzle are not connected and coordinated, making it difficult to achieve effective and continuous care. Figure 8 depicts the critical areas for improvement.

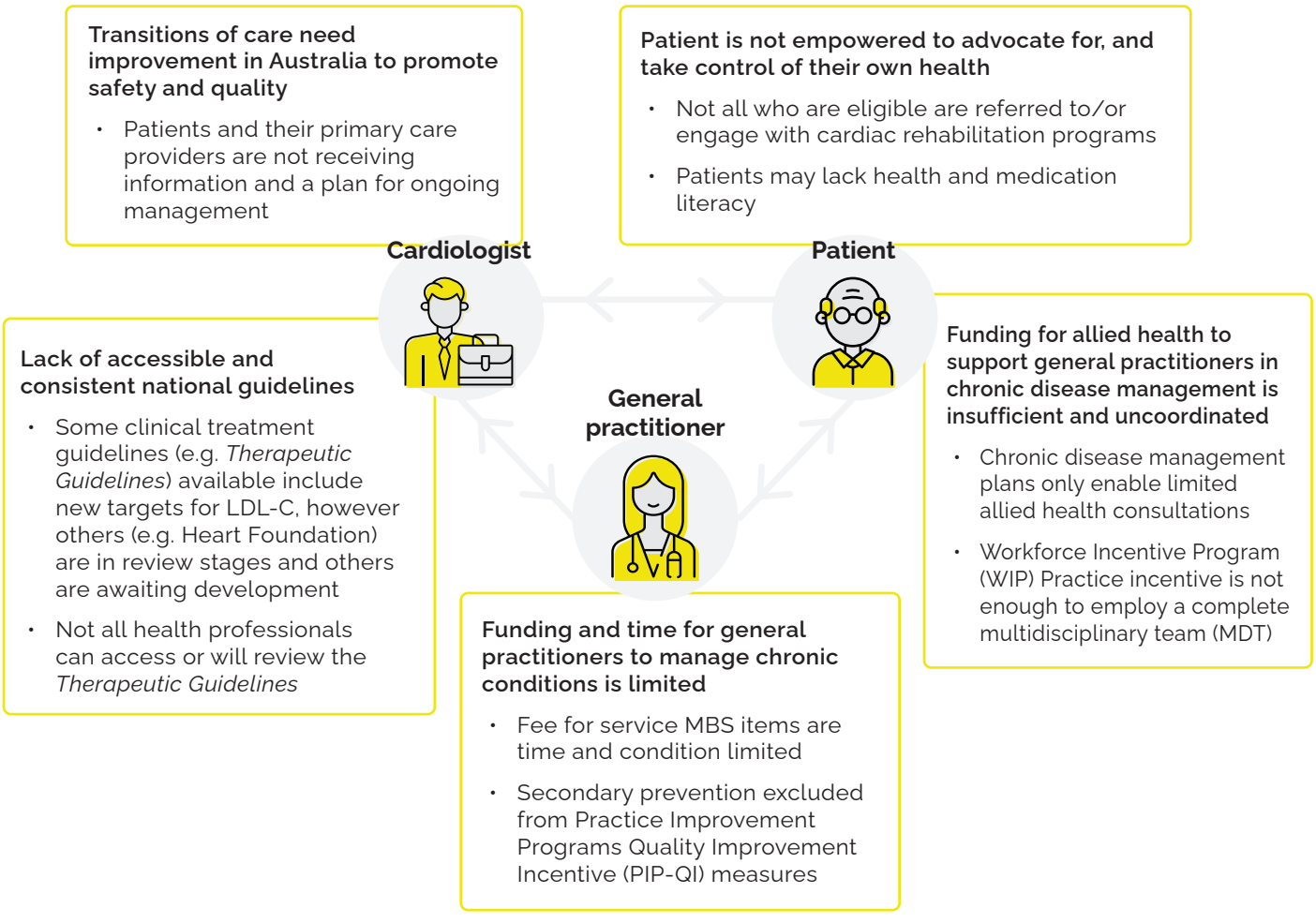


Figure 8 – Pieces of the health system that are not effectively connecting to support evidenced based ASCVD management

Source: Evohealth

1. Lack of accessible and consistent national guidelines

Until recently, Australia lacked clinical guidelines, relating to LDL-C for ASCVD secondary prevention that were consistent with global best practice. Recently, the *Therapeutic Guidelines* — a subscription-based Australian publication — recommended a reduction of 50 per cent from baseline or target LDL-C of <1.4 mmol/L, whichever is lower for patients with ASCVD. [39] The application of the *Therapeutic Guidelines* may be limited, however as clinicians typically prefer accessible, authoritative national guidelines such as those by the Heart Foundation. These are recognised by the Royal Australian College of General Practitioners (RACGP) and included in most GP management software systems. [49]

Fortunately, the lower LDL-C target is also reflected in the Heart Foundation's, *Draft 2024 recommendations for the Australian Clinical Guideline for Diagnosing and Managing Acute Coronary Syndromes* [50, 51] These updated guidelines are important to support an agreed, standardised national approach that provides clarity for clinicians and patients. Ideally, these guidelines will inform the development of dedicated chronic care guidelines for ASCVD in Australia that emphasise ongoing care and management.

Careful implementation is critical to ensure consistent, high-quality patient care across Australia. Without a cohesive national approach, achieving a universal standard for effective secondary prevention remains out of reach, along with our ability to develop health indicators and measure progress. Proper implementation of these guidelines will be essential to closing the gaps in ASCVD care and reducing subsequent preventable cardiovascular events.

2. Patient empowerment

For 'test and treat' to succeed, patients must be active participants in managing their health. Engagement with cardiac rehabilitation programs and patient support programs helps drive this engagement and empowers individuals to take control of their health outcomes.

Evidence-based cardiac rehabilitation programs

Evidence-based cardiac rehabilitation programs empower patients to take an active role in their disease management, reduce the risk of recurrent events and are cost effective. [23, 24, 52, 53] Typically, cardiac rehabilitation involves a medical assessment, provision of sustained mental health support, exercise programs, and education on medicines management, diet and lifestyle modifications, ideally from a MDT. [54] The benefits are tangible, completing a cardiac rehabilitation program can lower the risk of mortality or cardiovascular hospital re-admission by 38 per cent. Even starting, but not completing, such a rehabilitation program reduced risk by 19 per cent in a recent Australian study. [23, 24]

The Heart Foundation strongly recommends all Australians who experience a cardiovascular event be referred to and attend a cardiac rehabilitation program, however a recent Australian study found 88 per cent of 84,064 eligible participants did not receive cardiac rehabilitation, with only 31.9 per cent referred at all. [23, 24] Increasing referral rates to 65 per cent or above over 10 years could not only improve patient outcomes but also deliver significant healthcare cost savings of $86.7 million. [52]

Not all cardiac rehabilitation programs are equal. Program lengths have reportedly ranged from 3 to 14 weeks, with session numbers ranging from 1 to 30 and variability in essential education components. [55-

57] This results in substantial inconsistencies in the provision of evidence-based care.

To promote greater standardisation, the Australian Cardiovascular Health and Rehabilitation Association (ACRA) and Heart Foundation introduced quality indicators in 2021. A survey of 23 Australian cardiac rehabilitation programs revealed significant differences in adherence to these indicators, with most programs assessed at a medium level of performance (meeting 9–12.5 out of 16 criteria) and only a few achieving high performance (13–16 criteria). [24]

These findings underscore the need for a national accreditation program to ensure consistent and effective implementation of evidence-based, standardised care. Delivery modality of these programs and patient preference in accessing them will also need to be considered.

> *"Cardiac rehabilitation needs to be provided to all patients with CVD and made available for those who feel they need the support, even if it's months after their discharge to keep them on track and to prevent repeated events."*
>
> **– Dr Christian Verdicchio,**
> Chief Executive Officer of Heart Support Australia, and Clinical Senior Lecturer at the University of Adelaide and University of Sydney

Ongoing patient support programs

Whilst cardiac rehabilitation is effective after a cardiac event, patients should have access to support programs and resources throughout their lifetime living with the disease. The Heart Foundation provides an evidence-based patient support program called *My Heart My Life*, which tailors information, expert guidance, emotional and mental health support, and practical tips to the needs of individuals. It hosts an online community which provides adaptive support for patients' particular requirements. [47] The program is designed to enable patients to better manage their heart condition, and is complementary to clinical management of CVD, with health professionals encouraged to enrol patients online. Patients who do not access these resources are less likely to adhere to their treatment plans or seek timely care adjustments, which is vital for long-term health.

3. Transitions of care

Australia's current approach to transitions of care from hospital to the community, and back, falls well short. Gaps in these transitions may lead to incomplete follow-up and inadequate lipid management, increasing the risk of readmission or subsequent cardiovascular events.

Local studies indicate fewer than 40 per cent of medicine changes are explained adequately in discharge summaries. When one or more medicines are omitted in error from discharge information, patients are more than twice as likely to be readmitted to hospital than those with correct information. [58-60] Without a clear care plan, in the form of an effective discharge summary, both patients and their primary care providers are unable to manage their medication and reduce their ASCVD risk.

The recent *National Health Reform Agreement (NHRA) Mid Term Review Final Report* has acknowledged the issues with transition of care in the health system more broadly and recommended 'the interface between care sectors' be better managed. [9] It was suggested that 'the health needs of the population increasingly require multidisciplinary integrated care that supports

transitions across sectors', with recommendations eight and eleven from the report outlining how this can be improved through development and funding of optimal models of care outside the hospital system.

4. Funding and workforce constraints

Funding and health workforce limitations strain Australia's capacity to deliver effective secondary prevention. Primary care providers often lack adequate funding and support to effectively manage chronic conditions such as ASCVD. There are also insufficient financial incentives to support coordination with allied health professionals, including MDTs, limiting the scope and quality of care available to high-risk patients. Care by MDTs is not only best practice, by drawing on the expertise of multiple providers, but also reduces pressure on GPs to coordinate and manage multiple acute and chronic conditions for patients. Without addressing these systemic challenges, the goal of comprehensive secondary prevention will remain out of reach.

A range of funded approaches exist with several limitations:

- **MBS:** MBS patient rebates are based on a schedule of fees set by the Australian Government. The schedule includes fees for consultations, examinations and specified allied health services. Many of these items are time bound and condition limited, and typically not linked to health outcomes. [58] This often results in GPs needing to prioritise acute patient issues, rather than managing their patients' needs holistically, which includes preventative care.
- **Practice Incentives Program Quality Improvement (PIP-QI):** The quality improvement incentive under the Practice Incentive Program (PIP) supports general practices in enhancing patient care in key health priority areas by providing outcomes-focused funding. Participating practices submit de-identified data on 10 improvement measures, receiving up to $50,000 annually. While PIP-QI includes a quality improvement measure assessing the proportion of patients with CVD risk factors, it lacks measures for secondary prevention of ASCVD, thus providing no financial incentive for general practices to develop programs targeting secondary CVD risk reduction. [59, 60]
- **PIP-Workforce Incentive Program (WIP):** The WIP was designed to address shortages and improve access to quality health practitioners in regional, rural and remote areas in Australia. Incentive payments are made directly to doctors or the practice to support a range of health professionals to practice as part of an MDT. A review of the incentive program found it to be cumbersome to administer and insufficient to drive the behavioural and practice change needed to enable a true MDT practice. [61]
- **Chronic Disease Management (CDM) plans:** A CDM plan is a funded MBS item that supports GPs to create individualised care plans for patients with chronic or terminal conditions, and coordinate the treatments and services they may need from other health professionals. It includes a GP Management Plan and Team Care Arrangements, enabling access to MBS rebates for allied health services to support comprehensive, ongoing care. Patient access to allied health professionals in support of their plan is limited to five individual services per year which may be insufficient for those living with other comorbidities that are being prioritised over ASCVD management. [62] For example, diabetic patients may need to use those visits on podiatry, rather than a dietician who could provide support for their lipid management for ASCVD risk reduction.

> *The current chronic disease management plan of five allied health appointments per year from the GP is not adequate at all for those with CVD. Separate funding should be available for greater number of sessions similar to the action taken by the government with Type 2 Diabetes Management.*

– Dr Christian Verdicchio,
Chief Executive Officer of Heart Support Australia, and Clinical Senior Lecturer at the University of Adelaide and University of Sydney

While changes to the MBS items for CDM are expected in mid-2025 and are anticipated to outline the critical role of practice nurses and Aboriginal and Torres Strait Islander health workers and practitioners in CDM, details of the changes are unclear. [63] Broader system changes are also expected with further implementation of the the *Strengthening Medicare Taskforce Report* recommendations. [10]

Many of the system challenges have been extensively identified and acknowledged by the clinical community and policy makers, with recent reviews and reforms underway or proposed. These critical health policy reforms are needed to bring the pieces of the puzzle together and enable us to prevent many unnecessary hospital visits and deaths from ASCVD.

POLICIES, REFORMS AND FRAMEWORKS **THAT CONNECT THE PIECES**

The national health care policy and strategy landscape continues to evolve with new reviews, reforms and frameworks that acknowledge many of the issues identified in this report. Several reforms and recommendations for change, if implemented and coordinated appropriately, have the potential to improve outcomes for patients with ASCVD and other chronic health conditions.

Our analysis revealed four relevant reforms across a range of policy initiatives:

1. Better utilisation of MDT based care, highlighted in several reviews
2. Implementation of new funding models to promote high quality and MDT based primary care.
3. Updates to the general practice quality improvement incentive program.
4. Australia's response to improving medication safety at transitions of care.

1. MDT based care

The increasing need for integrated, coordinated MDT care in the primary health care setting has been recognised in several key policy and reform documents including the *National Health Reform Agreement (NHRA) Mid Term Review Final Report; the Strengthening Medicare Taskforce Report;* and the *Unleashing the Potential of Our Health Workforce – A Scope of Practice Review (Final Report)*. [9-11] These reforms and reviews outline the benefits MDT care can deliver, including person centred care and improved coordination between primary care and other arms of the health care system. Ultimately the MDT model of care (MoC) provides better access to primary care services, enabling more health practitioners to work to their full scope of practice and achieve better health outcomes for their patients.

Enhanced and supported MDT care models would address many of the individual and system challenges identified for ASCVD including better care coordination between cardiologists, GPs and other allied health professionals, as well as providing multidisciplinary expertise to manage complex risk factors and comorbidities. By streamlining care transitions, optimising follow up care and improving opportunities for patient education and engagement, these models would alleviate pressure on GPs, ensure consistent lipid management and support better adherence to treatment plans. Enabling better coordination between healthcare providers and leveraging the full scope of practice of allied health professionals is critical. MDT models can also provide comprehensive, evidence-based care tailored to the needs of high-risk patients.

2. New funding models

In line with the increased need for MDT-based care are recommendations to implement a new blended payment model, shifting from existing fee-for-service structures towards payments designed to support longer primary health consultations, particularly for chronic and complex disease management. [10]

These new payment models would incentivise GPs and/or other primary healthcare providers to engage in 'test and treat' care cycles for lipid management, enabling adequate review of their patients modifiable risk factors, lipid levels and medication adherence, while fostering greater patient engagement in their care plans.

The requirement for these new funding models to be equitable, sustainable and directly linked to the evolving MDT MoC, is highlighted in the *Mid Term Review of the NHRA*, as has the need for these models to incentivise the delivery of high value care, and penalise the delivery of low value care. [9] These reforms can drive high-value care delivery by ensuring ASCVD management is prioritised in a comprehensive chronic disease strategy.

3. General practice incentive programs

The *Review of General Practice Incentives* considers opportunities for improvement of existing incentive programs including the PIP and the WIP. This includes the implementation of a simplified general practice payment architecture, incorporating a baseline practice payment to provide flexibility to the practice for how to use funds and coordinate care to meet the needs of its patients. This supports the call for new funding models and MDT based MoC outlined above. However, these programs, particularly PIP, focus on primary prevention measures and contain no quality improvement measures related to the prevention of secondary cardiovascular events. [61, 64]

This omission is particularly concerning for ASCVD management. Greater flexibility in these payments could incentivise and support practices in adopting 'test and treat' care cycles to reduce the risk of recurrent events for their ASCVD patients at high risk of subsequent events.

4. Improving medication safety at transitions of care

Transitions of care are an area of high clinical risk for patients. The World Health Organization (WHO) *Global Patient Safety Challenge: Medication Without Harm Report* highlights the need to improve medication safety at transitions of care. It acknowledges discharge summary documentation is often lacking in content and quality, leading to potential medication-related adverse events. [65]

Australia's response to this report included a commitment to implement the *National Safety and Quality Health Service (NSQHS) Communication for Safety Standards* and to develop communication campaigns to promote clinician awareness of the risk and importance of medicine reconciliation. [66] For ASCVD patients, who are often discharged with critical prescriptions to manage ongoing risk, ensuring accurate medication management and communication of their management plan during transitions of care is essential.

The *Medication Management at Transitions of Care Stewardship Draft Framework*, which at the time of writing is being finalised. This provides an opportunity to establish best practices in medication safety during these transitions. [12] By focusing on improved

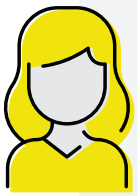
communication, coordinated care, and consistent follow-up, this framework could significantly enhance ASCVD outcomes by ensuring patients receive the right medications, clear guidance, and seamless continuity of care between healthcare settings.

Australian policy makers have developed many initiatives that can connect the pieces. Collectively all of these policies, frameworks, and reforms offer a critical opportunity to address long-standing issues in our health system, connecting the pieces needed to enable effective ASCVD 'test and treat' care.

BRINGING IT **ALL TOGETHER**

We have the tools to prevent ASCVD, yet challenges exist at every level—individual, system, and policy. When we are unable to bring it all together, avoidable ASCVD events and deaths will continue to occur.

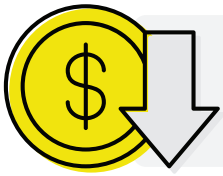
A targeted, coordinated ASCVD management program in Australia would deliver benefits for all stakeholders across the health care system:



Patients - enhanced health outcomes, quality of life and the risk of subsequent cardiovascular events, hospitalisations and mortality would decrease. Improved knowledge and health literacy will promote better patient engagement with their own health, with flow on effects to other comorbidities they may be living with.

Clinicians - a standardised ASCVD program would deliver an opportunity and pathway for delivery of better quality, coordinated care.

Hospitals - fewer readmissions and complex presentations contributing to a reduction in the need for complex care management and emergency department demand.



Australian health system – the costs associated with the burden of ASCVD would decrease.

These issues are not new. The *2022 National Cholesterol Roundtable Report* highlighted the substantial burden of uncontrolled cholesterol as a key risk factor for ASCVD, identifying critical roadblocks to effective cholesterol management in Australia as lack of awareness, fragmented care, and inequitable access. [67] Significant efforts are underway to address these issues. The Australian Cardiovascular Alliance (ACvA) is coordinating research across the cardiovascular and stroke sectors to identify unmet needs and inform strategies to improve patient outcomes. Similarly, the Cardiovascular Health Leadership Research Forum (CV HLRF), established by ACvA, brings together government, health leaders, data experts, and researchers to set cardiovascular and stroke-related priorities, and address gaps and inequities in care. [68], The Heart Foundation also funds research to address these issues and has initiatives such as the Catalyst Partnership Grants, which provide funding for innovative ideas to improve heart health and outcomes in Australia. [69] Integrating the efforts of these organisations and drawing on their expertise to implement the recommendations proposed in this report will be essential to achieving meaningful progress.

Solving the puzzle

There has been significant investment in developing the unique pieces of the puzzle to solve our ASCVD crisis, but little consideration for how they will all fit together. We need to bring all pieces together in a nationally-coordinated MoC that can be implemented across all levels of our health system.

Based on our research and insights, we propose five key recommendations to address the challenges associated with the prevention of secondary ASCVD events. These are represented in figure 3 and described in further detail below.

RECOMMENDATION 1

Develop, implement and assess a collaborative evidenced-based MoC for ASCVD secondary prevention across multiple defined local health districts and primary health networks.

RECOMMENDATION 2

When finalised, integrate the new acute coronary syndrome (ACS) and lipid management guidelines into clinical practice, including prescribing software, laboratory lipid panel reports and relevant patient information materials.

RECOMMENDATION 3

Standardise comprehensive cardiac rehabilitation and ensure every patient with ASCVD is enrolled in a modality of their choice.

RECOMMENDATION 4

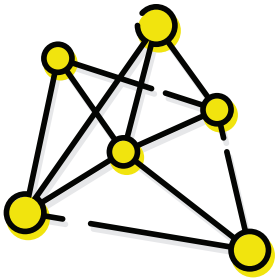
Expand the Practice Incentives Program Quality Improvement (PIP-QI) data measures to include patients with ASCVD, current LDL-C lipid result and treatment plan.

RECOMMENDATION 5

Create a targeted health promotion campaign for high-risk patients informing them how they can reduce their risk of a subsequent event.

Figure 3 – Bringing the pieces of the ASCVD prevention puzzle together with 5 actionable recommendations for the Australian health system

Source: Evohealth



RECOMMENDATION 1

Develop, implement and assess a collaborative evidenced-based MoC for ASCVD secondary prevention across multiple defined local health districts and primary health networks.

There is an opportunity to test all the available tools, evidence, new funding pathways and MDT care methodologies for ASCVD secondary prevention via the development, implementation and assessment of a standardised, evidence-based MoC.

We have considered key elements that the MoC must address, as well as testing requirements for a pilot program (see table 1). We recommend adopting the Framework for MoC development as defined by the New South Wales Agency for Clinical Innovation. [70]

Key design element for MoC	Description
1. Improve transitions of care for ASCVD patients	Adopt the principles outlined in the Australian Commission on Safety and Quality in Health Care's *Medication Management of Transitions of Care Stewardship Framework* to better manage the clinical risks associated with transitions of care for ASCVD patients. [12, 71, 72] This should consider optimising discharge processes, including discharge summaries and handover to the primary care provider.
2. Promote stronger patient engagement with their ASCVD management plan	Increase patient knowledge and awareness of support programs through their preferred modality, including cardiac rehabilitation programs, patient support programs offered by the Heart Foundation and design of new programs for chronic support, and integration of MDT models into general practice.
3. Support the role of the GP	Support GPs with the time and resources to implement the 'test and treat' care cycle for lipid management by integrating new clinical guidelines on target LDL-C levels, implementing MDT models, and creating new funding pathways and incentives.
4. Align with key initiatives and stakeholders working in ASCVD prevention and management	Engage stakeholders and address priorities outlined in the Heart Foundation's *Cholesterol Roadblocks and Solutions Roundtable Report*. These include implementing nationwide cardiac rehabilitation programs, improving care transitions, and proposing disease care packages to support the transition from hospital to community care. [67]

Table 1 – Key design elements for an ASCVD secondary prevention MoC *Source: Evohealth*

The pilot should operate across targeted Primary Health Networks (PHNs) and Local Health Districts (LHDs) nationally to ensure broad health system stakeholder and patient representation. Further considerations for selecting pilot sites and its operation are detailed in Appendix A.

RECOMMENDATION 2

When finalised, integrate the new ACS and lipid management guidelines into clinical practice, including prescribing software, laboratory lipid panel reports and relevant patient information materials.

Standardised and accessible clinical guidelines for lipid management are critical to ensure that clinicians can optimise patient treatment. To support time-pressured clinicians, any opportunity to automate and embed guideline prompts into workflows, practice systems and processes to support adherence is recommended.

Embedding the new guidelines into clinical practice software systems

In Australia, Medical Director (Telstra Health) and Best Practice are the two most commonly used clinical and practice management systems, with approximately 90 per cent uptake. [73] Both systems incorporate clinical guidelines to support decision making and regularly update their systems to keep current with new guidelines. Incorporating a specific target measure for LDL-C within the new guidelines and making it easily accessible in the software will help keep it front of mind for clinicians when discussing management plans and outcomes with their patients.

Laboratory lipid panel requests and reports

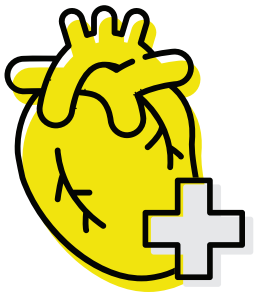
Current policy and guidelines specifically reference triglycerides and high-density lipoprotein cholesterol (HDL-C) in CVD risk calculation and management, but the omission of LDL-C increases the probability of doctors not consistently accessing LDL-C levels to inform clinical decision making. Additionally, there is a need to nationally standardise lipid profile reporting in Australia, an action previously identified in the *Australia's Cholesterol Heartache Report (2020)*, which has not yet been finalised, some four years later. [4]

Including LDL-C into the new Heart Foundation ACS Guidelines will encourage clinicians to obtain a full lipid panel with each pathology request to mitigate this risk. From a pathology provider perspective, the new guidelines encourage the inclusion of LDL-C as part of a standard lipid panel and encourage incorporating the new LDL-C targets into all reporting.

Keeping patients informed

Ensuring patients understand why LDL-C measures and targets evolve over time and the impact of achieving their target outcomes (along with the risk of not doing so) is critical to ensuring patient commitment with their treatment plans. Providing patients with simple and consistent information from reputable and trusted sources such as the Heart Foundation and their health practitioners is vital. The

'know your numbers' campaign is also an outstanding action from *Australia's Cholesterol Heartache Report (2020)*, though it has been partially addressed by the *'Know Your Numbers, Treat Your Risk'* campaign from Heart Support Australia. [4, 74] Ensuring these campaigns are aligned with clinical best practice and accessible to those at risk of a subsequent event is critical for their future success.



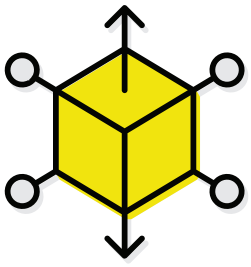
RECOMMENDATION 3

Standardise comprehensive cardiac rehabilitation and ensure every patient with ASCVD is enrolled in a modality of their choice.

All patients must be enrolled into a standardised cardiac rehabilitation program of their choice following their cardiovascular event. Additionally, it is recommended that cardiac rehabilitation is incorporated as a core component of the MoC for the prevention of secondary ASCVD events (Recommendation 1).

To enable the standardisation of cardiac rehabilitation programs, and facilitate better patient access to them, several resources have been developed including:

- The Heart Foundation provides a directory on their website with information on cardiac rehabilitation programs across Australia and includes links to telehealth services, including the national Cardihab and Heart Health at Home programs for those who cannot, or choose not to, access these programs in person. [75]
- *The Cardiac Society of Australia and New Zealand Position Statement* describes evidence-based guidance for the assessment and prescription of exercise and physical activity for cardiac rehabilitation clinicians. [76]
- *The ACRA and Heart Foundation national cardiac rehabilitation quality indicators*. [24, 77]



RECOMMENDATION 4

Expand the PIP-QI data measures to include patients with ASCVD, current LDL-C lipid result and treatment plan.

The quality improvement incentive under the PIP has 10 key improvement measures, one of which is directly related to CVD; Measure 8 captures the 'proportion of patients with the necessary risk factors assessed to enable CVD assessment.' It identifies the proportion of all regular clients aged between 45 and 74 years, as well as Aboriginal and Torres Strait Islander regular clients who are aged 35 to 44 years, who have had all the information required to calculate their absolute CVD risk in the last 2 years recorded. It captures patient data on total cholesterol and HDL-C but omits LDL-C and specifically excludes patients who have a known diagnosis of CVD.

As this report was prepared, a review of the program was underway. This report recommends any revisions consider the importance of prevention of a secondary cardiovascular event for patients diagnosed with CVD, and that LDL-C levels are captured.

RECOMMENDATION 5

Create a targeted health promotion campaign for high-risk patients informing them how they can reduce their risk of a subsequent event.

According to WHO, health promotion supports personal and social development through the provision of health-related information and education. It enables individuals to possess greater control over their own health and healthcare decisions. [78] There are several examples of promotional campaigns that have been particularly successful in Australia: *Life Be In it* to promote a healthy and active lifestyle, *Slip, Slop, Slap* promoting sun protection initiatives and *Every cigarette is doing you damage* targeting smoking and cessation. More recent examples include the immunisation and infection control campaigns associated with the Covid-19 pandemic. [79]

Creating a health promotion campaign to educate the community about risks of secondary events is recommended. It should communicate the importance and effect that reaching the target LDL-C level will have on an individual's health.

This campaign should highlight the various evidence based support programs available to patients via the Heart Foundation, such as the *MyHeart MyLife* program. [47] Additional support resources should be developed for this campaign to specifically educate patients on secondary prevention measures for ASCVD. The messaging must be consistent, simple and easy to understand. The campaign should be underpinned by market research to ensure it is effective, and the call to action is clear and easy to interpret.

Australia is in a privileged position to have the pieces of the puzzle on hand. Our recommendations focus on how these can be connected into a cohesive MoC to target ASCVD secondary prevention across the health care system. Australia is ready to finally solve the ASCVD puzzle, reduce events and save lives.

ABBREVIATIONS

Abbreviation	Description
ACRA	Australian Cardiovascular Health and Rehabilitation Association
ACS	Acute Coronary Syndrome
ACvA	Australian Cardiovascular Alliance
ASCVD	Atherosclerotic Cardiovascular Disease
CALD	Culturally and Linguistically Diverse
CVD	Cardiovascular disease
CV HLRF	Cardiovascular Health Leadership Research Forum
DALY	Disability Adjusted Life Year
GP	General Practitioner
HDL-C	High-density lipoprotein cholesterol
LDL-C	Low density lipoprotein cholesterol
LHD	Local Health District
MBS	Medicare Benefits Schedule
MDT	Multidisciplinary team
MoC	Model of care
CDM	Chronic Disease Management
NHRA	National Health Reform Agreement
NSQHS	National Safety and Quality Health Service
PBS	Pharmaceutical Benefits Scheme
PCSK9	Proprotein convertase subtilisin/kexin type 9
PHN	Primary Health Network
PIP	Practice Incentives Program
PIP-QI	Practice Incentives Program - Quality Improvement
RACGP	Royal Australian College of General Practitioners
WHO	World Health Organization
WIP	Workforce Incentive Program

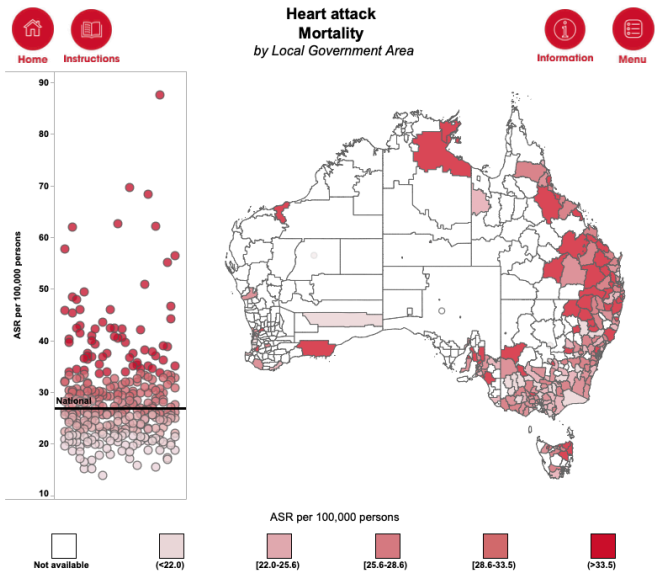
APPENDIX A – **CONSIDERATIONS FOR MODEL OF CARE PILOT SITES**

Pilot selection criteria

Jurisdictions from each state and territory should be invited to participate if key selection criteria are met, including:

- **Willingness and ability to participate:** Jurisdictions will have an active PHN and hospital network with stakeholders willing to participate in, and able provide sufficient resourcing to operate the pilot.
- **Demographic representation:** Jurisdictions will need to demonstrate that their patient demographic is representative of the general population and priority groups including:
  - Socio-economically diversity
  - Aboriginal and Torres Strait Islander Peoples
  - CALD communities
  - People living with disabilities
  - People living in rural and remote areas of Australia.
- **Alignment to PHN Needs Assessment:** PHNs undertake an analysis and assessment of their regional population health needs to systematically identify key service gaps and issues, and to set the health priorities for their region. [80] An overview of the needs assessment of PHNs interested in the pilot will yield insight into those that have prioritised CVD in their planning and therefore are likely to be more invested in the pilot program.
- **Greatest CVD burden** Jurisdictions where the CVD burden is greatest (i.e., highest prevalence of heart disease and related mortality) should be prioritised for the pilot program. Data on CVD prevalence, hospitalisations and mortality, filterable by states, territories and local government areas is available from the Australian Heart Foundation's 'Heart Maps' interactive dashboards and could be overlayed with the PHN needs assessments described above to identify CVD 'hotspot' regions to be targeted for inclusion in the pilot program. [81]

Figure 9 - Dashboard example from the Australian Heart Foundation 'Heart Maps'



Source: https://www.heartfoundation.org.au/for-professionals/australian-heart-maps

Pilot design success factors

To support the success of the pilot program and the future adoption of the new MoC, its design will need to incorporate and align with other key strategic plans and regional assessments including LHD and PHN strategic plans and priorities, PHN needs assessments, and relevant state and federal health strategic plans. It should also be designed in a format that can readily be adapted in other jurisdictions and potentially be used for other chronic disease conditions.

Pilot Evaluation

A core component of the pilot program will be its evaluation. It is critical that during the pilot design phase key performance indicators (KPIs) and SMART principles (specific, measurable, achievable, relevant and time bound) are defined, evaluation data and capture mechanism is identified, built and tested and that the evaluation component is endorsed by the governance board.

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DISCLAIMER

This Report has been prepared by Evohealth Pty Ltd (Evohealth) on behalf of Amgen (Amgen).

This Report has been commissioned by Amgen to develop an independent and product-agnostic report examining ASCVD secondary prevention in Australia including lipid management and treatment.

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